

**PERSISTENT MIRAGE:
HOW THE ‘GREAT AMERICAN DESERT’ BURIES GREAT PLAINS INDIAN
ENVIRONMENTAL HISTORY.**

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By

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Abstract

A Persistent Mirage:**How the ‘Great American Desert’ Buries Great Plains Indian Environmental History.**

In the winter of 1819 the United States shook under the first Great Depression, and on the Missouri River a great military/scientific enterprise sent to secure Missouri Territory shivered and died from cholera and scurvy. In 1820 Maj. Stephen Long and a poorly equipped expedition of twenty-three soldiers, amateur scientists, and landscape painters, set out from Engineer Cantonment to circumnavigate the unknown Central Great Plains during the height of summer, and rescue something from the debacle. After weathering endless rain and hallucinating waves of Comanche, they divided into two groups at the Arkansas, and then either starved and endured weeks of rain on the lower Arkansas, or ate rancid skunk and endured blistering sun on the ‘Red River’. On return they found Long had ‘mistaken’ the Canadian River for the Red, and that they were yet another failed expedition to know the Louisiana Purchase. Unsurprisingly, Long labeled the whole place a “great desert.” An editor improved the phrase to *Great American Desert*, and emblazoned the phrase on history.

A Persistent Mirage is both an exegesis of the GAD myth and an HGIS study of the groups and biomes the desert mirage occludes. Desert was a cultural term meaning *beyond the pale* that beached with the Puritans. Like Turner’s frontier, it stayed a step ahead of settlement, moving west to the tall grass prairies before crossing the Mississippi to colonize the Great Plains. Once there it did calculable damage to the writing of Plains Aboriginal history. After all, who lives upon deserts but wandering beasts and savages? Beneath the mirage was an aboriginal network of *agricardos*, or agricultural and trading centers, growing enough food to support large populations, and produce tradable surpluses, undergirded by bison protein. Euramericans from Cabeza de Vaca on were drawn to *agricardos* which helped broker the passages of horses to the Northern Plains and of firearms to the Southwest. While some withstood epidemic disease, the escalation of inter-group violence and environmental degradation due to the adoption of the horse by *agricardo* groups proved their undoing. Beneath the Great American Desert lies the great Indian *Agricardo* Complex, with its history just begun.

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CHAPTER 1.

Changing Climates: How the Opinion of One American Argonaut Turned the TransMississippi West into the *Great American Desert*.

The summer of 2009 saw merchant ships pass through the true “Northwest Passage” unimpeded by ice pack, fulfilling the centuries old European dream.¹ This event went largely unnoticed, but the myth of a viable Northwest Passage that drove so much New World exploration and resulted in the deaths of Sir John Franklin and many others had passed from the realm of mythos into the realm of reality, courtesy of geometrically increasing climate change that many insist is not happening. All of those adventurers, Christopher Columbus, Samuel de Champlain, et al., were searching for some thing that did not then exist, a mirage; that mirage has now become reality. Of course, Arctic oil explorations have shown us that once upon a time the Arctic was covered in enough herbaceous material to indicate that the Pole had a tropical climate. Prehistorically there actually was a Northwest Passage and it was dusted with pollen and leaves, rather than covered with pack ice. The myth of the Northwest Passage shows us that some myths based upon our surety of knowledge of the ‘real’ world are more time sensitive than others. This dissertation is a critical examination of another cherished and hoary myth with a nebulous “best before” date. The term “Great American Desert” is an idea, or rather more a clutch-bag of ideas, which was perhaps used one time to describe a discrete geographic area at a specific point in time by one American explorer. That region then supported one of the greatest terrestrial concentrations of animal protein in the world, and, not coincidentally, was the homeland of the Comanche, Osage, and other formidable aboriginal groups, some with permanent agricultural sites. This was the land beneath the myth. Somehow, Great American Desert (after, GAD) then came to be a pseudo-scientific synonym for the Southern Great Plains,

¹ “Two German merchant ships have traversed the fabled Northwest Passage after global warming and melting ice opened a route from South Korea along Russia's Arctic coast to Siberia. Moore, Matt, and Seth Borenstein. "Merchant Ships Complete Northwest Passage Voyage: 'the Arctic Is Becoming a Blue Ocean,' Scientist Says of Global Warming's Effect on Shipping Routes." Globe and Mail [globeandmail.com], Friday, September 11 2009.

and the people who lived upon them, by definition, wandering savages. This sometimes politically useful myth persists to this day in some academic and political circles. The following constitutes both the first Historical Geographic Information System (HGIS) study of that geographic area and people so maligned, and an exegesis of how this myth came to be. Mapping the earth beneath the myth reveals a land and its people with a history largely unknown.

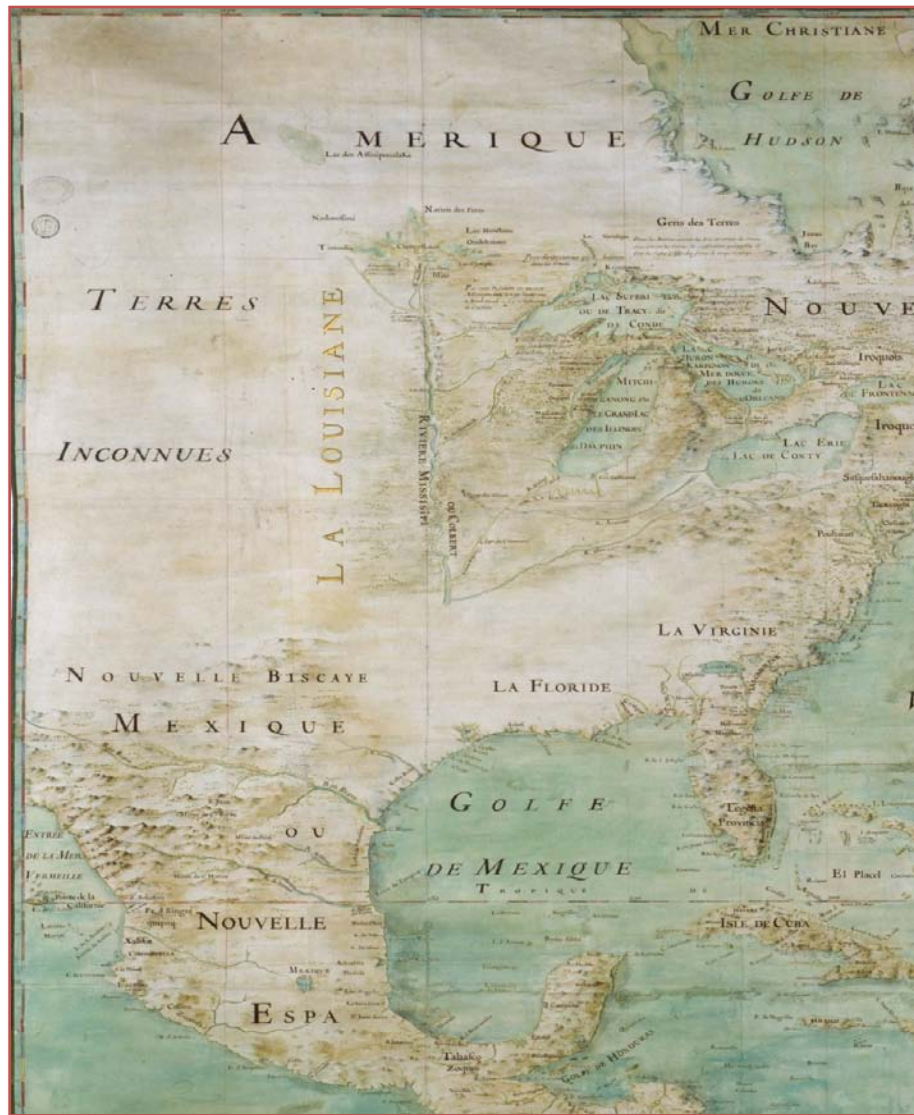


Figure 1.1. Terres Inconnues. Claude Bernou. *Carte de l'Amérique septentrionale et partie de la méridionale depuis l'embouchure de la rivière St Laurents jusqu'à l'isle de Cayenne avec les nouvelles découvertes de la rivière de Mississipi ou Colbert* [attribuée à l'abbé Bernou]. Paris, 1681. France in America Online. <http://international.loc.gov/intldl/fiahtml/fiatheme1.html>.

As late as 1820 the Western Great Plains, or TransMississippi West, was commonly depicted as a *terra incognita*/terres inconnues, not just in American letters and maps, but in those

of the European colonial nations as well. The region was then so unknown as to defy stereotyping (Figure 1.1). However, by the late 1820s, the TransMississippi West was visually depicted on maps and textually labeled in publications as the *Great American Desert*. This sea change in imagery came about almost solely because of the textual legacy of one exploring expedition, that of Major Stephen Harriman Long in the summer of 1820. Long and a small party of scientists, artists, soldiers, and civilians ascended the Platte River to the Rocky Mountains, then split into two groups and descended the Arkansas and Canadian Rivers. Despite the fact their Platte and Arkansas routes were plagued by endless rain and storms, what Long saw convinced him to label the region a “great desert”; neither he nor anyone in his party ever used the term *Great American Desert*. On arriving safely back in Washington, they published journals, newspaper articles, and a very famous map which in concert identified the region of their travels as a place unfit for agricultural settlement, in other words both a cultural and an environmental desert (Figure 1.2). That they both used the term ‘desert’ and supplied a scientific definition added a patina to that pronouncement for a society then in thrall with scientism, and the “great desert” was embraced by elements of American officialdom and the press with some enthusiasm. The impact of this imagery was magnified by Long’s being but one of several expeditions that returned empty handed from searching for a *Great American Garden* across the Mississippi, the rest were of the great Jeffersonian frontier exploration enterprise of 1805-1810.

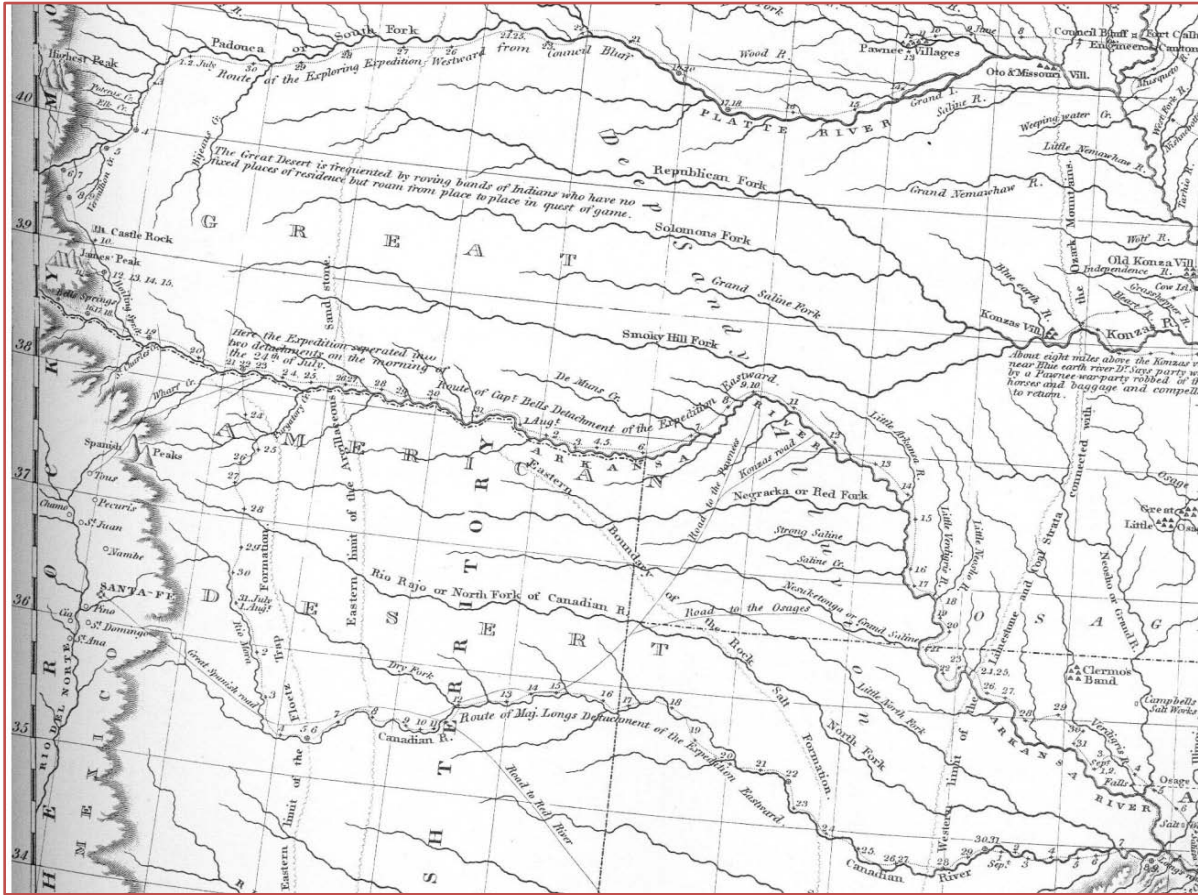


Figure 1:2. Long's Great American Desert. Stephen H. Long, "Country Drained by the Mississippi, Western Section." (Reproduced 1958 for the Institute for Historical Geography, 1823): Edit.

By the middle 1820s Great American Desert was a prominent feature on maps and atlases meant for the general public, and, particularly, public schools (Fig. 1:3). Deserts were dangerous. Where was that "great desert", travelers wanted to know? How then did a blank space transform into a well-known desert in a few years, and how far did this notion spread? Quite a ways!



Figure 1.3: Henry Schenk Tanner. "Map of the roads, canals, and steam boat routes of the United States." *The Travellers' Guide*. (Philadelphia: H.S. Tanner, 1825). Courtesy of Special Collections, rare Books. Regenstein Library, Chicago. This desert, "Desert of Arkansas," is unique. It hews to Long's region east to west, and is superimposed on Osage territory, a graphic illustration of what desert meant to travelers.

The key to explaining a geographically defined thesis is to define its geography. Since Stephen Long is near universally credited with first articulating the term Great American Desert, the area under consideration is then the region he observed and labeled. Over time GAD has had many different meanings for many groups and individuals. The GAD tended to expand to suit the politics of the user. Figure 1.4 is my representation of the region circumnavigated by Stephen Long in 1820, constructed on the ArcMap desktop. This figure includes modern state boundaries to help orient readers, but I omit them from subsequent maps in this dissertation, since state boundaries are anachronistic for 90% of this study period. Only in the 1800s did Western political boundaries appear on the TransMississippi West.

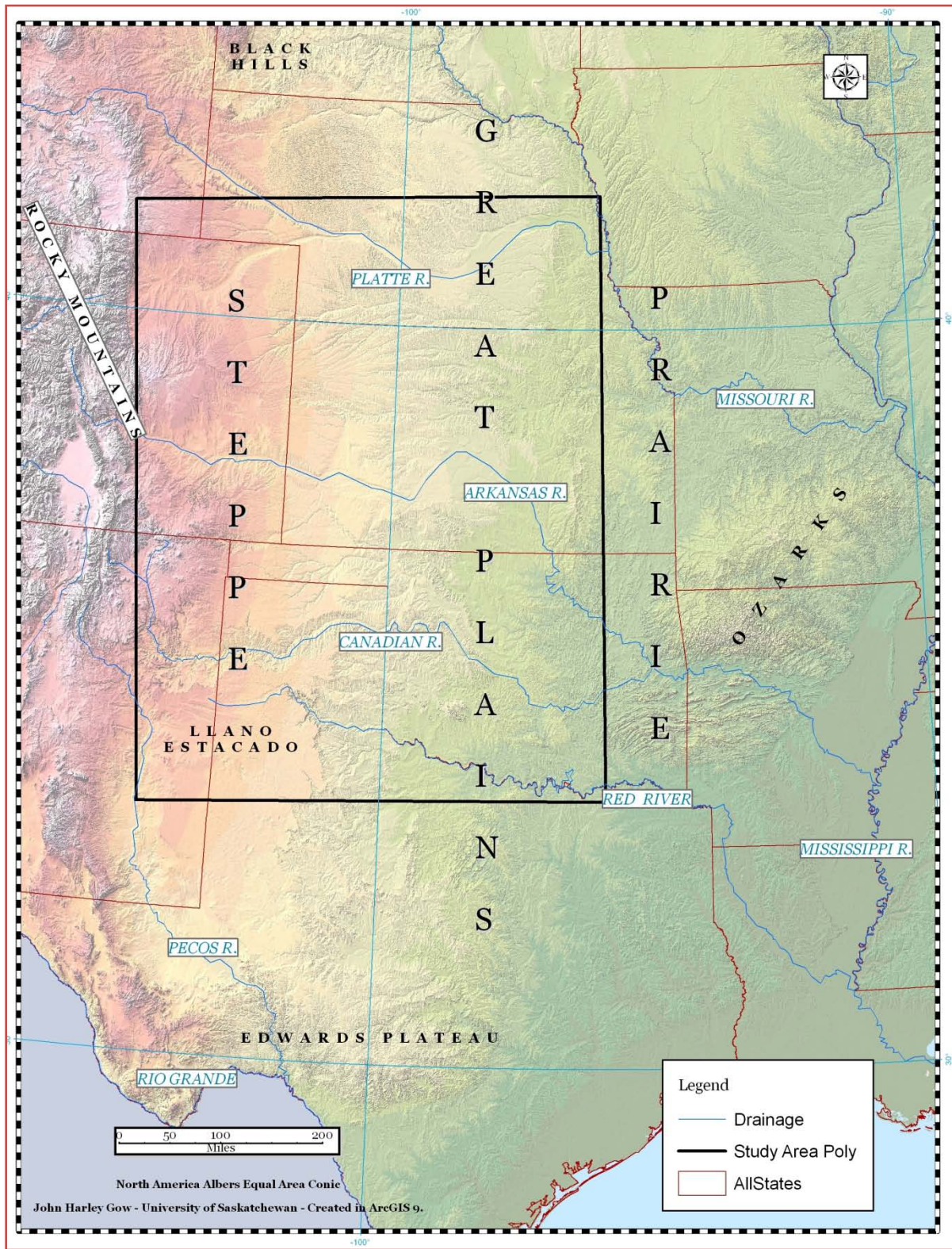


Figure 1.4. The Study Area.

In the central portions of the great American continent
there lies an arid and repulsive desert
which for many a long year served as a barrier against the advance of civilization.

Sherlock Holmes, *Study in Scarlet*.²

This question is at the root of this dissertation: how, when, and why did this great region, then as now so obviously supportive of many disparate cultural groups and the biotic wonderment that supported them all, become branded a desert in such a convincing fashion that many otherwise thoughtful persons cling to that image today? Who were the perpetrators, what were their motives, and how did they transmit that notion? What was the *real* place like and how did it function environmentally and culturally? My quest for the desert myth, or the *Textual Desert*, necessitated an examination of primary texts dating back to the dawn of journalistic exploration of the Plains, that of Cabeza de Vaca (1535).³ Perhaps the Spanish had reported deserts on the Great Plains, and the idea of a desert was a structural-cultural one shared by European explorers and transmitted to Americans. This proved to be only partially correct.

My overarching intellectual concern is change over time in human affairs, and one obvious myth held onto by a clutch of explorers, politicians, and historians does not begin to explain how the Study Area worked for its human occupants. GAD mythology no better explains the interrelationships among climate, geography, grass, bison, Comanches, Osage and conquistadors than Nazi mythology explains World War One. But, how to combat a myth imposed upon aboriginal groups and their homelands by self-interested outsiders, whom I term *argonauts*⁴ as they were all in quest of wealth (souls, gold, furs, slaves, farmland, monographs, et cetera). Historical works focus on what the argonauts said about the Study Area, or even more commonly, what later writers said about what earlier writers said. Many of these historians

² Arthur Conan Doyle, *Study in Scarlet*, in William S. Baring-Gould, ed. *The Annotated Sherlock Holmes*, 2 vols. Vol. 1, (New York: Clarkson N. Potter, 1976[1967]):61.

³ The Textual Desert concept is discussed at length in the following chapters as an *idée fixe* or unit-idea. The unit-idea was a creation of Professor Arthur Lovejoy, along with the 'History of Ideas', precursor to Intellectual or *Mentalities* History. Lovejoy regarded the unit-idea as the basic individual concept from which, in Hegelian dialectic fashion, other ideas derived. Arthur O. Lovejoy, *The Great Chain of Being: A Study of the History of the Idea*, (New York: Harper & Row, 1961[1936]).

⁴ I owe this term, which was a fairly common term for Gold Rushers, to Cormac McCarthy and his classic novel of the borderlands just to the southwest of this Study Area, *Blood Meridian*.

wrote with the GAD an unconscious element of their worldviews. This approach tends to produce exceptionalist narratives about the struggles of euramericans to defeat overwhelming ‘natural’ obstacles, such as deserts and Indians, and, against all odds, making the place safe for cattle, farmers, and lawmen. Anthropological and ethnohistorical works about the Study Area’s human groups are universally declensionist in part as they were written from survivors’ stories about their distant forbears’ conquest by euramericans. The story here is always, what happened after Contact. A critique of selected relevant literature is an integral part of the ongoing discussion of the *Textual Desert*. How then to access the pre-GAD Study Area?

Adopting HGIS (Historical Geographic Information System) methodology in pursuit of an answer proved providential. This opportunity arose through my fortuitous employment by Geoff Cunfer, who subsequently agreed to supervise this dissertation. HGIS method requires a return to primary sources in search of those interrelationships. Perhaps unsurprisingly, the content of the primary documents supported an environmental approach to the problem of the desert. This in turn forced me to figure out how to translate episodic and often sketchy primary source materials into the attribute and spatial data (discussed below) necessary to an environmental historical analysis of the region. How can one understand an environmental myth without understanding the land it rests upon?

Researching, writing up, and ‘mapping up’ those problems generated two inductive hypotheses. The first deals with the Textual Desert, and suggests that elements of a desert myth exist in core Western/Christian cultural values and are rooted in conflict between ‘man’ and ‘wilderness’ and existed anywhere that civilization had yet to deposit its calming influence. Euramericans saw ‘deserts’ in environments ranging from open parkland to saltwater swamps, tallgrass prairie, oak forests, oceans; almost every biome excepting real deserts.⁵ These deserts were cultural apparitions often derived from biblical understanding of the environmental world. Stephen Long’s “great desert” proves to be a place outside civilization, a place he feared yeoman farmers would never take hold. Since many authorities (discussed below) credit Stephen Long with identifying the *Great American Desert*, was the whole concept naught but a simple misunderstanding of a complex environment by one journeyman argonaut?

⁵ When argonauts such as Zebulon Pike passed an actual sand desert they did not have a word to describe it.

The second hypothesis is the environmental one,⁶ and has little to do with Stephen Long, but that he provides some useful textual observations. As some, by no means all, euramericans saw limiting deserts in the Study Area, aboriginal groups apparently saw near limitless opportunities. These peoples were no more ecological in their thinking and actions than you or I, but made ardent usage of every resource their cultures allowed them to identify. Further, a centuries long environmental lens reveals no period of stasis. Rather, Plains Aboriginal societies dealt with continuous disruptive environmental challenges. Of these, introduced Euro-Asiatic pathogens were but one element.

Pre-Contact Aboriginal groups had developed a network of permanent agricultural and trading sites I term *agricardos*. *Agricardo*⁷ is my Latinate neologism for a concept that coalesced during the writing of this dissertation, spurred by re-reading Richard White's *It's your Misfortune* (1991):

Competing empires confronted a native world of competing villages and tribes. In the [18th C] a world balance of power that was shifting against Spain...and toward France and England paralleled a Native American balance of power that was shifting against settled horticultural villagers and toward nomadic hunters. It was these intersecting changes that shaped the [18thC] West.

The *pivot of these struggles* was the villages of the horticulturalists...ideal sites for connecting Indian exchange systems to imperial exchange systems (emphasis, mine).⁸

Agricardos produced sufficient grown foods to support long-term occupation of riparian valleys by groups of hundreds to thousands of people. *Agricardos* were then the exact antithesis of the euramerican desert. *Agricardo* groups and sites included Jumano communities El Quivira and Quich (Taovaya towns), as well as Taino, Republican Pawnee, Grand Pawnee, Osage, and perhaps others. The introduction of the horse, of contagions, and to a much lesser extent, firearms, helped speed the destruction of this *agricardo* network to the point that, by Stephen Long's tour in 1820, but one survived in the Study Area, that of the Pawnee.

This history is difficult to get at, and disappears completely when one is looking *for* a great desert or assumes one exists. Indeed, it quickly became apparent that the GAD is but one

⁶ Throughout this dissertation I will use the term environment to mean the biotic and abiotic elements that both dictate and foster development of human culture.

⁷ From the Latin *agri*, root for agriculture, and *cardō*, for centre or pivot. Collins *Latin Dictionary* (2003).

⁸ Richard White, *"It's Your Misfortune and None of My Own" A New History of the American West*, (Norman: University of Oklahoma Press, 1991): 28-29.

of many mythological constructions euramericans have superimposed on the Great Plains since Contact.⁹ The second and environmental hypothesis suggests the *idée Great American Desert* is a mirage, a ghostly image floating over the very real and different place beneath it. This mythological construct effectively masks a vital prehistoric aboriginal agricultural culture.

The Great American Desert is easily disposed of as an environmental and/or scientific concept, even though it still has political uses. However, the GAD myth has been and continues to be a pernicious intellectual barrier to writing the early history of the TransMississippi West. What better way to essentialise a region, its people, and their history than label their homelands a desert? A desert is best avoided, flown over, or otherwise ignored. Conversely, anyone who would set foot there must by definition be a real hero, an *exceptional individual* tackling an *exceptionally inhospitable place*.¹⁰ Both these impulses are apparent in the historical writings on the Great Plains, and of the American West more generally. Almost by definition, once mentally armed with the notion that the Study Area is a great desert, the indigenous peoples who lived upon it are reduced to being wandering savages, at best (or worst) a problem for settlers and the military, “barriers to civilization.”¹¹

What is the point of this? The answer is simple. The notion disappeared in the antebellum years when immigrant farmers flooded across the Mississippi, but it resurfaced in the 1890s and 1930s when drought wracked the Great Plains. Some writers, politicians, historians, activists and others, still use the idea of the *Great American Desert* to further various agendas. As a concept, it is inescapable in any historical, political, economic, environmental, or gender examination or theory about the Great Plains. This myth has legs.

Both the Zebulon Pike (1806-07) and Long expeditions upon which the desert myth was based were largely, perhaps entirely, political exercises. Pike has been tarred with the secessionist brush because his sponsor was General James Wilkinson, friend and protégé of the Aaron Burr. Long, on the other hand, has been linked with the Federalist impulse to limit westward expansion in order to maintain the relative political power of the New England

⁹ Others include the Seven Cities of Cibola, golden state of Quivira, Passage to the East, The Garden, Wild West, Buffalo Commons, and the Red States, to name but a few.

¹⁰ Lawrence of Arkansaw? It is very easy to get caught up in this and ascribe heroic status to the argonauts.

¹¹ Rupert Norval Richardson, *The Comanche Barrier to South Plains Settlement: A Century and a Half of Savage Resistance to the Advancing White Frontier*, (Millwood NY: Kraus Reprint Co., 1933).

states.¹² By condemning the western plains as a desert then, there would be less pressure to expand into the West and potentially dilute New England's political power in so doing. In this case, it is easier to see the politics behind the official maps and journals. Politics informed both the mindsets behind the journalists' note-taking and the subsequent uses of that material by the official publishers. Through the 1840s the desert myth had its uses in discouraging westward emigration from settled areas, and politically for those against state expansion. Why, wondered the editor of the *Missouri Republican* in 1844, would any "man of information or in his right mind ... think of leaving such a country as this, to wander over a thousand miles of desert and five hundred of mountains to reach such as that[?]"¹³ The fact that this editor asked the question reveals that many settlers apparently disbelieved or were ignorant of the GAD myth.

What use do I have for a desert? In the broadest sense, Long's definition opens up a specific American place to the possibility of "an ecological reexamination of [its] history[.]"¹⁴ In common with James C. Malin, I believe that an environmental lens is key to understanding human cultures. Malin saw, as did his contemporary Fernand Braudel, that presentism relatively speaking, or concentrating on the specifics of an invading culture's discoveries and frontiers, was a "subjective and egocentric" exercise.¹⁵ Over the course of *longue durée* time, "the tables might be turned upon these invaders by another invading culture."¹⁶ By focusing on the region over time, as opposed to a traditional *eventimentiel* historical focus, we can perhaps glimpse culture in action as opposed to culture expressed in edited archival form. In and of itself, the Long Expedition records can tell us quite a bit about the perceptions and intentions of a group of

¹² Historian J.B. McMaster "deplored the adoption, by certain politicians in the Oregon debates of the 1820s, of Stephen Long's concept of the "desert region." Martyn J. Bowden, "The Great American Desert in the American Mind: The Historiography of a Geographical Notion," in *Geographies of the Mind: Essays in Historical Geosophy*, edited by David Lowenthal, and Martyn J. Bowden, 119-47, (New York: Oxford University Press, 1976): 121.

¹³ He was possibly unaware that the most exaggerated claims included western Missouri (west of 95° longitude) within the GAD. Merlin P. Lawson, "Toward a Geosophic Climate of the Great American Desert: The Plains Climate of the Forty-Niners," in *Images of the Plains: The Role of Human Nature in Settlement*, edited by Brian W. Blouet, and Merlin P. Lawson, 101-114 (Lincoln: University of Nebraska, 1975): 101.

¹⁴ James C. Malin, *History and Ecology: Studies of the Grassland*, Edited by Robert P. Swierenga, (Lincoln: University of Nebraska Press, 1984): 106.

¹⁵ Malin (1984): xvi. Editor Robert Swierenga insists that Malin had "no acquaintance with Bloch's work or ... of the *Annales* school of scholarship [,]" presumably including Braudel.

¹⁶ Malin (1984): 109.

politically motivated individuals at one specific time and place. But what does that virtual snapshot matter in historical terms? By contrasting their impressionistic records with those of other argonauts traversing this region over a period of some two centuries before the achievement of euramerican settlement and agriculture, it is possible to place Long's arid opinion in some greater historical perspective. By acquiring numerous virtual snapshots from argonaut accounts and mapping them to a GIS it is possible to construct a geographically specific environmental history of the Great American Desert.

Apart from outlining a specific geography for an environmental history, what other reasons are there to study the "Great American Desert"? First, the notion still has legs for Americanists, at least as a metaphor. A 1995 historiographical essay by Kinley Brauer uses this idea as a titular metaphor to explain how "the period between 1815 and 1861 might as well be regarded as a desert in the recent historiography of American foreign relations."¹⁷ Brauer goes on to note that, just as the "seemingly desolate Great American desert masked a rich land that beckoned explorers[.]" Middle Period American foreign relations "deserve renewed consideration." Brauer then is comparing a lacuna in a historiography to a specific American desert. While he credits Long for labeling the region as a desert, it is not clear whether the author meant there was an actual or a metaphysical Great American Desert. Brauer does provide enough leads in footnote form to allow for an investigation by interested readers.

It is one thing for the desert idea to have utility as a literary metaphor, but does it still have any weight as a historical or environmental fact? The *Encyclopedia of the Great Plains* (2004) features a half-page essay on the topic, as well as several other mentions.¹⁸ A 2005 book by environmental historian Geoff Cunfer, *On the Great Plains: Agriculture and Environment* (2005), makes clear that the desert idea still resonates with both environmental historians and environmentalists more generally as a "declensionist argument".¹⁹ Cunfer's monograph is at least in part an answer to the widely held and widely taught thesis central to Donald Worster's

¹⁷ Kinley Brauer, "The Great American Desert Revisited: Recent Literature and Prospects for the Study of American Foreign Relations, 1815-1861,." In *Paths to Power: The Historiography of American Foreign Relations to 1941*, edited by Michael J. Hogan, 44-78 (Cambridge: Cambridge University Press, 1995).

¹⁸ David J., Wishart, ed., *Encyclopedia of the Great Plains*, (Lincoln: University of Nebraska Press, 2004).

¹⁹ Geoff Cunfer, *On the Great Plains: Agriculture and Environment*, (College Station: Texas A&M, 2005).

Bancroft Prize winning *Dust Bowl: The Southern Plains in the 1930s* (1979). Why would Worster have implicitly embraced the inevitability of agricultural collapses and environmental disasters on the Plains? Everyone knows it is the Great American Desert.²⁰

One arena where the GAD consistently comes into play is the continuing discussion over the “Buffalo Commons” concept. Buffalo Commons, as may be guessed, springs from the *Tragedy of the Commons* essay and school of thought. Deborah and Frank Popper were the originators and remain the chief driving academic voice behind the promotion of the Buffalo Commons *idée*:

We are proposing that the region be returned to its original pre-white state, that it be, in effect, de-privatized.²¹

The Poppers are GAD “high counters” in that they define their Buffalo Commons region as comprising the Great Plains

[a]t the center of the United States between the Rockies and the tallgrass prairies. The region extends over large parts of 10 states...Its eastern border is the 98th meridian. San Antonio and Denver are on the Plains east and west edges respectively.²²

Elsewhere the Poppers generously extend those boundaries to include the Canadian Plains. As their choice of funereal language indicates, the Poppers think farming the Plains *in toto* was a grave mistake. The Buffalo Commons movement arrays itself against the fruitless pursuit of agricultural wealth on the Great Plains. In many respects this notion pits residents of the Western Plains against interested outsiders, Ted Turner, for example, who has purchased

²⁰ Beautiful prose aside, Worster’s ubiquitous study states it is “about” the Southern Plains, as per the map, “Extent of area subject to severe wind erosion 1935-40” (Sharon Hagen, cartographer): 30. In reality Worster conflates the entire Great Plains with the hardest hit and limited geographic of the Dust Bowl in opening his discussion by introducing Walt Whitman’s “characteristic landscape.” Whitman of course made plain he was referring to “the Prairies and Plains [that] while less stunning at first sight, last longer, fill the esthetic sense fuller, precede all the rest, and make North America’s characteristic landscape.” *Dust Bowl*’s editor also makes the same egregious error, calling “North America’s Great Plains” the site of Worster’s dusty, and declensionist narrative. For Whitman, “Specimen Days”, 194 in *Prose Works* (Philadelphia: David McKay, 1892) For Worster, *Dust Bowl : The Southern Plains in the 1930s*, 2nd ed. (New York: Oxford University Press, 2004 [1979]): 3, 5, back cover notes.

²¹ Deborah Epstein Popper and Frank J. Popper, "The Great Plains: From Dust to Dust (a Daring Proposal for Dealing with an Inevitable Disaster)," 12-18, *Planning* 53:12 (1987): 12.

²² *Ibid.*

several million acres of Plains to return it to Nature, by tearing “out all the cross fencing and replant pastures with bunchgrasses and other native vegetation [, then bringing] in the buffalo.”²³

Part of the Popper’s appeal is that they tend to use very balanced and scientific language to describe their project, eschewing the GAD in their writing and referring to the Plains as being “endlessly windswept and nearly treeless: the climate is semiarid, with typically less than 20 inches of rain a year.”²⁴ One thing in common with desert promoters however, is the reductionist conflation of the entire Plains into one handy problem (as Worster, above). Here the Poppers mention the bizarre Siouan legal pursuit of the Black Hills as potentially comprising part of the Buffalo Commons,²⁵ as if the Black Hills environmental refuge was part and parcel of the Dust Bowl disaster²⁶. The Poppers forthrightly admit to using one all-encompassing regional metaphor, the Buffalo Commons, for pursuing “a traditionally central task of geography — understanding and creating alternative futures for regions.”²⁷ This approach “ambiguous, open-ended, and somewhat disconcerting”, is useful for environmental activists, but is hardly the most legitimate approach for a historian to follow.²⁸ Canny manipulators of imagery that they are, the Poppers rely on the continuing and perhaps subconscious public “knowledge” of a Great American Desert to further their Buffalo Commons. The most recent example of the Popper’s crusade shows that the movement appears to have dropped the catch-all Great American Desert from their masthead as David Samuel’s “Give the Plains Back to the Buffalo” evidences.²⁹

²³ Glen Martin, “Where the buffalo roam, again: Humans are disappearing from Great Plains as bison and other wildlife return.” *San Francisco Chronicle* (Sunday, April 22, 2001): < <http://www.sfgate.com/cgi-bin/article.cgi?file=/chronicle/archive/2001/04/22/MN39309.DTL> > Retrieved Wednesday, October 21, 2009.

²⁴ Popper and Popper (1987): 12.

²⁵ Popper and Popper (1987): 18. It is not the Sioux’s desire for the Black Hills that is bizarre, but rather the process of acquiring it. For the incredible story of the Siouan legal victory, and refusal to cash the billion dollar cheque, see Edward Lazarus, *Black Hills White Justice: The Sioux Nation Versus the United States*, (New York: HarperCollins Publishers, 1991).

²⁶ For an interesting Canadian introduction to Plains refugia, here the Cypress Hills, see J. G. Nelson, *The Last Refuge*, (Montreal: Harvest House, 1973).

²⁷ Popper, Deborah Epstein, and Frank J. Popper, “The Buffalo Commons: Metaphor as Method,” *Geographical Review* 89: 4 (1999): 491-510.

²⁸ Popper and Popper (1999): Again, while the Poppers cite others referring to the Plains as a desert, they never use that terminology themselves.

²⁹ David Samuels, “Give the Plains Back to the Buffalo: Crazy? Yes. Actually Happening? Yes,” 36-45, *Mother Jones* (April 2011).

The reasonable language and gloss of scientism as expounded by the Poppers shows up in other places, some of them unexpected. In the 1994 *Atlas of Westward Expansion*, editor Alan Wexler and cartographer Molly Braun demonstrate in highly visual fashion that the GAD expanded in step with the American West. This is perhaps the only map in existence that bravely nails the desert down to a specific locality; most cartographers or graphic artists prefer to coyly splay the text across a large but ultimately indefinable area (Figure 1.5.).

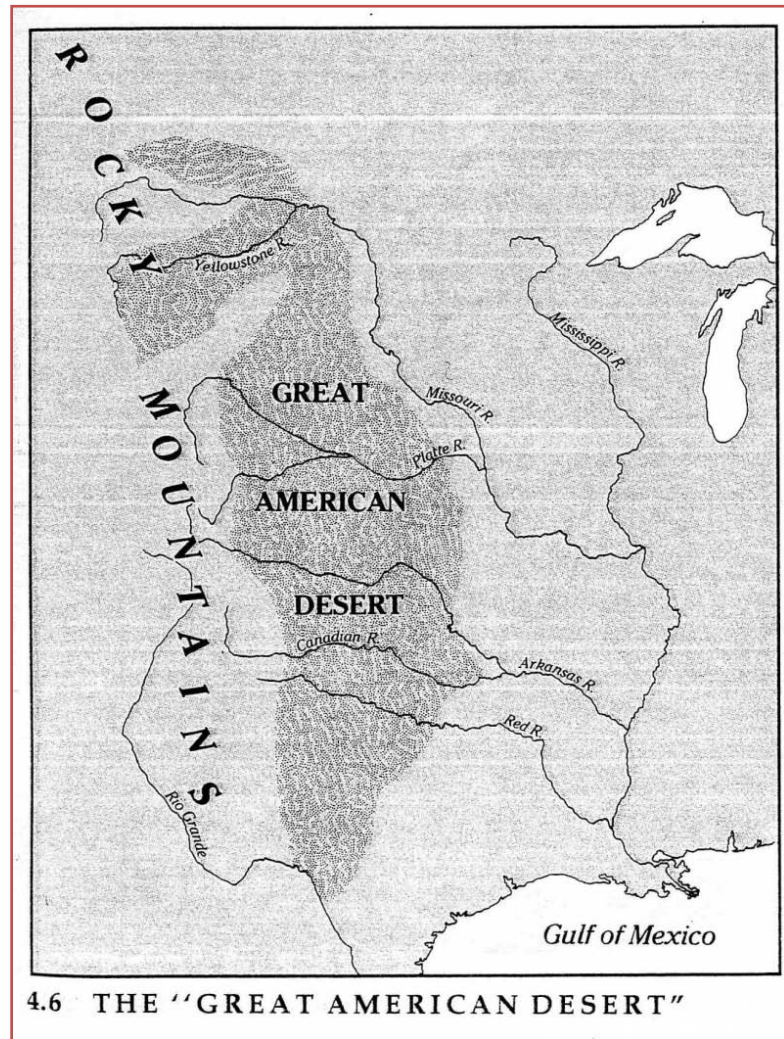


Figure 1.5. Wexler and Braun's desert. Alan Wexler, "The 'Great American Desert,'" *Atlas of Westward Expansion*, (New York: Facts on File, 1994).

This desert appellation poses numerous problems requiring some clarification in terms. First, the Study Area is not now a desert, but it certainly was in deep time a desert³⁰, and may well become again a desert in the face of ‘Global Warming.’ It was demonstrably not a desert during Long’s 1820 transit of the region. What, precisely, is a desert? *Environmental deserts* are those found in the natural world, sometimes created with the help of industrious humans, but real in the sense of being places that do not support much life in human terms. There is no one scientific definition, as geographers define a desert as typified by, “[s]canty vegetation...due to very high, or very low temperatures [...], or to an excess of evapotranspiration over precipitation.”³¹ Environmental scientists see a more chaotic and human-shaped biosphere where deserts are:

likely to form within any temperature range if the average precipitation is less than 250 mm [<10 inches] /yr, and is typically very erratic. Plants and animals are either absent or sparsely distributed, and they are adapted to long droughts or to a lack of access to free water.³²

Such then, is an Environmental desert, much like the pocket one pictured below (Figure 1.6).

³⁰ Paul B. Hook, and Ingrid C. Burke, "Biogeochemistry in a Shortgrass Landscape: Control by Topography, Soil Texture, and Microclimate," *Ecology* 81:10 (2000): 686-703. "[M]ovement of wind-blown sand during the Holocene may have limited or masked topographic patterns" we see today on the plains; in other words, buried them in sand.

³¹ Susan Mayhew, ed., *Oxford Dictionary of Geography*, (Oxford: Oxford University Press, 2004).

³² Michael Allenby, ed., *Oxford Dictionary of Ecology*, (Oxford: Oxford University Press, 2004).



Figure 1.6. Great Sand Dunes National Monument, Colorado. Photo, the author. This pocket desert lies between the Sangre de Cristo and San Juan Mountain ranges some 40 km north of Alamosa, Colorado. This habitat has been remarkably stable over the last two centuries being almost exactly the same size and location as it was when Zebulon Pike skirted it in 1807.

The organization of this dissertation is driven by the requirements of the Historical Geographical Information Systems (HGIS) methodology, and one *raison d'être* for this project is to demonstrate the great utility of the HGIS methodology.³³ The great utility of GIS mapping is also its greatest pitfall; GIS demands a level of combined geographical and textual specificity that other historical modes simply do not require. GIS historians spend more time buried in individual primary sources than other specialties in part because of the onerous necessity of achieving geographic precision. Contrarily, historical narrative builds on facts, dates and the *presumption* of the reader's geographical awareness. This presumption amounts to “spatial

³³ Somewhat embarrassingly for one who likes his definitions carved in stone, the “G” in GIS, is variously represented as Geographic (Knowles, 2008, p. xiii) and Geographical (Gregory, 2003, p.1). Herein, Geographical, “ADJ. Of, pertaining to, or of the nature of, geography” [OSED], holds ground.

‘fuzzy logic,’”³⁴ such as mistaking the Great Plains for the Great American Desert (example below).

What precisely is HGIS? Ian N. Gregory argued that a “GIS is a kind of database management system that links each item of data to a coordinate-based representation of its location[.]”³⁵ HGIS then marries mappable facts or historical “attribute data” together with geographical “spatial data” also gleaned from archival sources.³⁶ Attribute data are selected from sources in a fashion any historian would recognize, with the caveat that the facts must be mappable. To clarify, an argonaut journal that describes the long journey to California from Missouri in 1850 as a wet one has some value for a social historian, but is useless in GIS terms. A journal that mentions a great hail/snow/electrical storm on the Platte River near Pawnee Island on July 17, 1849 provides mappable data for a GIS database. If the same source happened to mention grass types and the presence of Pawnee hunters, bison or wild horses at that same location at the same time, or provide a drawing, further data could be added to the attribute table. In a GIS database this happy conjunction of attribute data would provide five mappable facts: Pawnee presence,³⁷ weather event, bison presence, wild horse presence, grass type.³⁸ By combining many such conjunctions over greater areas and over time in a GIS database, the historian can begin to test for relationships between the Pawnee and the environment on the Platte River in 1850. Mappability in GIS demands these types of data categories in conjunction with temporal data and geographical specificity. GIS can then be used to produce maps of these plotted historical-environmental, or biohistorical, relationships. The easiest way of demonstrating this statement is to provide an example.

³⁴ This term appropriated from, Anne Kelly Knowles, “GIS and History,” in, *Placing History: How Maps, Spatial Data, and GIS Are Changing Historical Scholarship*, Edited by Anne Kelly Knowles, 1-26. (Redlands, CA: ESRI Press, 2008): 19.

³⁵ Ian N. Gregory, “‘A map is just a bad graph’: Why spatial statistics are important in Historical GIS,” in Anne Kelly Knowles, ed. *Placing History: How Maps, Spatial Data, and GIS Are Changing Historical Scholarship*, edited by, 123-150, (Redlands, CA: ESRI Press, 2008): 124.

³⁶ Ian N. Gregory, *A Place in History: A Guide to Using GIS in Historical Research*, (Park End Place, Oxford: Oxbow Books, 2003). Gregory’s definition: “Attribute Data: Data that relate to a specific, precisely defined *location*. The data are often statistical but may be text, images, or multimedia. These are linked in the GIS to *spatial data* that define the location.” At, 64.

³⁷ Throughout this paper I am going to use the term ‘presence’ to refer to the composite cultural continuity, geographical reach, and population of a specific group: aboriginal, Taino, or Comanche, *et cetera*.

³⁸ How to categorize these for data entry discussed below.

Kathleen DuVal's *The Native Ground: Indians and Colonialists in the Heart of the Continent* (2006) provides such a test case.³⁹ This very interesting monograph is a puzzle in that it tells the story of the Osage, a group that figures prominently in the history of the GAD. However *Native Ground* tells the story of a much different people than appear in the primary sources. From reading Zebulon Pike and others it becomes clear that the Osage were a people of the Prairie Plains circa 1800, and that their economy was centered upon access to Plains horses and bison. In 250 pages of DuVal's text, bison are mentioned three times; incredibly, never in relation to the Osage.⁴⁰ You cannot understand the Osage and their place in the world without understanding the role of bison in their cultural economy, which in part explains why the author never explains the Osage in terms of their powerful presence upon the Plains.⁴¹ Because the bison and the Plains never appear, neither does the Osages' intense relationship with the Comanche, so well documented elsewhere.⁴² Why these oversights? In part the problem is geographical in nature, and one example serves to make this point.

Zebulon Pike had an important and intimate relationship with the Osage, as explored in Chapter 9. Pike provides valuable attribute and spatial data on the Osage, complete with precise chronology. Where Pike found the Osage places their actions in precise geographical context. DuVal frames Pike's meeting with the Osage thusly,

[i]n 1806 Zebulon Pike ascended the Missouri River to the Osage villages with the ransomed prisoners and returning delegation from Washington.⁴³

It is in this context that DuVal discusses Pike's negotiations with the Osage and their concerns about their "enemies to the east". Pike had indeed ascended the Missouri River, until

³⁹ Kathleen DuVal, *The Native Ground: Indians and Colonists in the Heart of the Continent*, (Philadelphia: University of Pennsylvania Press, 2006).

⁴⁰ DuVal thrice mentions bison, the first iteration being a discussion of "A.D.1400 Spiroans [who] traded eastern goods ... for ... bison hides and meat from the Plains[.]" DuVal (2006): 23. The other two iterations are indexed under "Bison: conquistador's fear of" at 50, 51; evidence of DuVal's Eurocentric method and practice.

⁴¹ For a work that considers the Osage within their physical environment, "a powerful group ... who lived along the prairie and plains margins ... of the Great Plains," see Willard H. Rollings, *The Osage: An Ethnohistorical Study of Hegemony on the Prairie-Plains*, (Columbia: University of Missouri Press, 1995[1992]): 1.

⁴² See for example, Dan L. Flores, ed. *Journal of an Indian Trader: Anthony Glass and the Texas Trading Frontier, 1790-1810*, (College Station: Texas A&M University Press, 1985).

⁴³ DuVal (2006): 186-7.

he met the mouth of the Osage River, so-named because of its being the site of both Grand and Little Osage towns. Pike then ascended the Osage River, not the Missouri, to the “Osage villages.” Here, at the western edge of the tall grass prairie, Pike found the Osage. Within fifty miles of this point, Pike would see the first bison of his journey. This geographical impreciseness prohibits DuVal from understanding the Osage within the context of their environmental cosmos, of which the Great Plains/GAD was a key component. What emerges in DuVal’s narrative is yet another declensionist story about Indians written from traditional archival and secondary sources.

This test case provides working examples of spatial and attributes data that will be examined more fully. It is crucial to a GIS history that precise geographic coordinates can be “found” in the sources, and this is why *in situ* journals are the preferred sources for this study. Where the subjects made reference to attribute data is of primary importance. What the sources reported provides the basis for attribute data. In this example, Pike helps us situate the Osage villages, the central point from which this formidable group operated their cultural economy. Pike also provides mappable categories of data including: the relationship with the bison resource, the Osage relationship with horses both caught⁴⁴ and wild, Osage encounters with other aboriginal groups and territories, weather events and trends, grass and ground cover, other animals and resources, euramerican presence, and the relations between animals and ground cover.

One of the tasks undertaken herein, a “more conceptual challenge,”⁴⁵ is to track the idea of the ‘Great American Desert’ during this study’s timeframe. Did the argonauts use the term ‘desert’, and if so, in what particular set of environmental and ecological circumstances did they do so? Was the term utilized as an environmental or a cultural signifier / narrative, and did the

⁴⁴ Author’s terminology: many Plains horses exchanged hands on a regular basis, often becoming feral at some point in between owners. Caught horses were domesticated in the sense they were partially broken for human use. To think of these animals as being domesticated is highly misleading.

⁴⁵ For a thoughtful and eminently readable introduction to the challenges and rewards associated with historical GIS mapping, see, Anne Kelly Knowles, “GIS and History,” in *Placing History: How Maps, Spatial Data, and GIS Are Changing Historical Scholarship*, edited by Anne Kelly Knowles, 1-26. (Redlands, CA: ESRI Press, 2008); also, Knowles, ed. *Past Time, Past Place: GIS for History*, (Redlands CA: ESRI Press, 2002).

meaning of the term change over the study period? This argument owes something to Edward Said's notion that narratives or:

stories are at the heart of what explorers and novelists say about strange regions of the world ... The main battle in imperialism is over land, of course; but when it came to who owned the land – these issues were reflected, contested, and even for a time decided in narrative.⁴⁶

Was the desert observation more restricted geographically than historic maps would lead us to believe? Figuring the subsequent political import and usages of the desert idea is beyond the scope of this paper but tracing the genesis of the term is pertinent to an understanding of the region's environmental history.

Since I employ the definition of history as the study of change over time, equally importantly is specific temporality. For example, Pike's journal tells us the day on which the Osage River rose fifteen feet in a few hours. Seasonality is a micro-scale concern primarily in relation to animals and the human-animal interfaces. Situating argonaut journals and the maps and documents they spawned precisely in time and relative to the production of the GAD mythology is central to this project. In this macro-scale narrative, following the development of the gathering geographical knowledge base forward through time is key to understanding both bioregion and myth.⁴⁷

In certain extreme cases the entire Trans Mississippi West, or the Great Plains, was condemned as the Great American Desert.⁴⁸ Apart from the above reference, this rare and purely textual conquest of desert over tall grass prairie will be noted but not explored in HGIS; it will be shown that there was no basis in fact for the GAD's expansion on maps. Similarly in the

⁴⁶ Edward W. Said, *Culture and Imperialism*, (New York: Vintage Books, 1994 [1993]): xii-xiii.

⁴⁷ Here, I would once again like to acknowledge the importance of Jonathan A. Carter's essay "Telling Times" to this writer's theoretical frame and methodological approach. "Telling Times: History, Emplotment, and Truth," *History and Theory* (42:1, 2003): 1-27.

⁴⁸ The map of the American West in T. G. Bradford's *Comprehensive Atlas* (Boston, 1835) features the all-caps GREAT AMERICAN DESERT sprawled across the place more properly reserved for the "Great Plains". The only political boundaries accorded this vast region are Oregon Territory, and British America located somewhere above the Fiftieth Parallel. Some Indian groups' territories are recognized, as "Sioux District". One need not return to 1835 to find examples of greatly expanded GADs. Alan Wexler wrote in 1994 that Stephen Long "identified the area extending from the 95th meridian to the Rocky Mountains as the "Great American Desert" [emphasis, mine.] Alan Wexler, *Atlas of Westward Expansion*. (Facts On File, 1994): 61.

Canadian Prairies “Palliser’s Triangle” became a synonym for “sterile with scanty pasturage”, after 1860.⁴⁹ Canada, however, is without consideration herein because the territory from the Missouri River northwards was excluded from the Great American Desert myth as a legacy of the Lewis and Clark Expedition of 1804-1807. Palliser himself was familiar with the Missouri and Yellowstone Rivers as a hunter, and gave “no indication” of deserts great or small there.⁵⁰ The Canadian version of the desert mythology patiently awaits its historian. Again and similarly, an examination of early nineteenth-century maps and atlases reveals that fictional North American deserts were not alone in the world. At various points in time deserts were ‘known’ to have covered the entire southern half of both Africa and South America. These issues will also be dealt with in chronological order in the following chapters.

In the geographical terms of this paper, Great American Desert signifies the Southern Great Plains bounded to the north by the Platte River, to the south by the Red River, to the west by the Front Range of the Rocky Mountains, and to the east by the Arkansas River south of the Big Bend, thence north to *Omaha, Nebraska* (Figure 1.4). This study centers on but is not limited to this region as none of the argonauts began or ended their journeys at this imaginary line. All maps will bear this rectangular polygon in order to focus the reader geographically. Stephen Long and his company of scientists and soldiers explored this region in 1820, and this is the geography for which the Long Expedition and its published output were the first official American observers. Within the context of examining the desert myth other geographies, including those of the Eastern Seaboard, Ohio River Valley, and Missouri River Valley will be briefly examined in search of deserts. As the historical problem defined the Study Area, it also, when considered with the GIS methodology dictates the temporal boundaries of this study. The Great American Desert was an American textual construction that physically lay within the boundaries of the United States.

All definitions are contentious, and presumably the time period for this study will qualify. Perhaps the starting date is the least contentious. Argonaut Álgar Núñez Cabeza de Vaca

⁴⁹ John C. Hudson, “Agriculture,” in David J. Wishart, ed., *Encyclopedia of the Great Plains*, (Lincoln: University of Nebraska Press, 2004): 32.

⁵⁰ John Warkentin, “The Desert Goes North,” in *Images of the Plains: The Role of Human Nature in Settlement*, edited by Brian W. Blouet, and Merlin P. Lawson, (Lincoln: University of Nebraska Press, 1975).

survived and traversed the southern *Texas* plains 1528–1536. His *Relación* is both the first, and the first roughly mappable journal of Europeans who approached the Study Area. Note that de Vaca never actually set foot on the Great Plains, but his is the first account to give clues about the language and terms the Spanish used to describe what they considered to be La Florida, later Louisiana.⁵¹ Following de Vaca, I pursue the Spanish/Hispanic journalists who visited the Study Area through to Pedro Vial at the dawn of the Nineteenth Century. Also considered is the sole French transit by Bourgmond of the Great Plains in 1724. Americans Lewis and Clark skirted the region just to the north in 1805-07. Zebulon Pike crossed the Arkansas River in 1806-07. Two Jeffersonian exploring expeditions approached the Study Area from the southeast circa 1805-07. Trader Anthony Glass ascended the Red River in 1810 and kept a journal while so doing. All of these argonauts appear in the following chapters. Many others traversed the plains and kept no records or only skirted the Study Area. Others produced accounts so vague as to be unmappable. I believe this study to be the first to attempt a history of any large portion of the Great Plains that based on primary sources from Spanish, French, and English / American sources. This study terminates with the 1820 Long Expedition.

As the GIS mapping component will make clear, by 1820 the United States was pressing hard upon the Great Plains. The exploration of the region took on a new tenor as professional surveyors, soldiers, and tourist writers replaced the first hardy and sometimes foolhardy explorers as the interface between the civilized East and the frontier West in American letters. As American *in situ* knowledge, power and presence increased, the Great American Desert retreated west across the Rocky Mountains, where it more properly belongs. The myth of the Great Plains desert lingered on however, and the textual investigation follows the persistent GAD myth to the present day.

From the sources examined and the process of mapping attribute and geographical data, the following themes or areas of interest emerged. Obviously, any mention of deserts or sand dunes or reefs, sandstorms or any related data was of primary concern. These proved to be surprisingly few and far between. By extension, other biotic provinces were identified when possible to do so. In the earlier sources this is restricted to plant types humans found edible.

⁵¹ Both terms in their early iterations included the western lands drained by the Mississippi, even if that watershed remained a complete or relative mystery.

Later, horses and bison enter the discussion. From Cabeza de Vaca came the idea of tracking exchange systems, as it was a major concern for his survival, so it was for those who followed. Figuring a way to map exchange led directly to the consideration of trade and agriculture. The two were intimately and intrinsically connected in all the sources surveyed, although these were sometimes coded and alluded to rather than stated outright. Napoleon famously said, ‘all armies march on their stomachs,’ it is often possible to get at these issues when argonauts mentioned hunger, which they often did. Aboriginal agriculture is another obvious concern. I make a considerable effort at figuring the importance of agriculture in the early historical Study Area. This led to attempting a system of categorizing mentions of grown foods, and from that to the idea of the *agricardo*.

Accounting all the problems encountered in extracting attribute data from the sources employed herein would make for another substantial dissertation. In brief, the problems encountered in dealing with translations from Spanish, French, and 19th century American are summarised as they occur chronologically. A major problem of the sources is that the argonauts tended to follow rivers, and most give scanty reportage of the highlands. However, Coronado, Vial, Bourgmont, and others did indeed cross the Plains and report on them, as the following GIS maps reveal. Other problems, such as journalists becoming habituated to certain factors, such as the presence of bison, are examined as they arise in context.

Another issue that arose early and relates to exchange is naming. Every effort was made to use Aboriginal names for persons and places. This is very difficult to do given the tendency of conqueror groups to erase the presence of the defeated. Otherwise, I considered it a strength of the GIS method to be able to fix names to places as they appear in primary sources. One such small success was in figuring the genesis of the name, “Canadian River”. More importantly, the naming issue also involved aboriginal signifiers. I prefer to use the term ‘group’ exclusively over contentious terms like ‘tribe’, ‘band’, or ‘nation’ for both aboriginal and euramerican groups. Organized states or countries are recognized as they impact the narrative. The HGIS method was of great assistance in forcing me to figure who aboriginal groups were composed of and what geography specific groups were associated with at specific times. For instance, historical puzzles such as Jumano and Padouca identity are discussed herein, with some success at using cultural traits rather than geography to identify groups. Situating these groups in terms

of their geographical location and cultural attributes such as agricultural practice is a major part of this exercise.

Bison locations and numbers were a category of interest from the very beginning, in part because of what de Vaca had to say about them, much more so because of how de Vaca's testimony has been manipulated by later writers. These chapters then follow bison records from 1535 to 1820, providing evidence about bison populations and ranges over time. For instance, since de Vaca's horses were all drowned or eaten they could not have spread to the Plains. The introduction of horses to the Study Area and their demonstrated impacts is a later, but important part of this study. Horses and firearms are inextricably linked in any discussion of Plains Indians, and considering the spread of both was a major focus of roughly the last half of this discussion. The horse far outweighed the firearm as both a creative and destructive force in the Study Area during the Study Period.

An overarching narrative is the construction of meaning of the TransMississippi West in Euramerican maps and records. How and when Euramericans received impressions of the Study Area through published materials obviously influenced the perceptions of argonauts. Intimately connected with the naming issue these maps and documents are discussed as they appeared in public discourse.

Regarding the Study Area, History has favored either glorious epics about the conquest of the Great Plains from uncivilized savages,⁵² or shameful tragedies about the same circumstances.⁵³ Occasionally the bloody conflict over the possession of the Study Area has been downplayed or ignored. Patricia Limerick in *The Legacy of Conquest* ironically devoted more pages to a discussion of prostitution than to military conquest.⁵⁴ Those tropes, as so

⁵² These are legion, but see for example: Rupert N. Richardson, Adrian Anderson, and Ernest Wallace. *Texas: The Lone Star State*. 6th ed. (Englewood Cliffs NJ: Prentice Hall, 1993); and, Webb, Walter Prescott. *The Great Plains*. (Lincoln: University of Nebraska Press, 1981 [1931]).

⁵³ For example see these stellar books: Gary Clayton Anderson, *The Conquest of Texas: Ethnic Cleansing in the Promised Land, 1820-1875*. (Norman: University of Oklahoma, 2005); Richard Drinnon, *Facing West: The Metaphysics of Indian-Hating & Empire Building*. (Norman: University of Oklahoma Press, 1997 [1980]); and, Colin G. Calloway, *One Vast Winter Count: The Native American West before Lewis and Clark*. (Lincoln: University of Nebraska Press, 2003).

⁵⁴ Patricia Nelson Limerick, *The Legacy of Conquest: The Unbroken Past of the American West*, (New York: W. W. Norton & Company, 2006 [1987]).

vividly discussed by Hayden White, have along with the myths such as the Great American Desert served to occlude the region's history. Narratives more considerate of the environment underneath the GAD, such as those of Malin and Cunfer, tend to focus on the agricultural era. The conquerors all have their histories; what about the conquered people and the bioregion that supported them?

Anthropologists have compounded the obfuscation of the Study Area by essentializing its aboriginal inhabitants. Ernest Wallace and E. Adamson Hoebel, the most sympathetic of Comanche anthropologists, saw in them the "Lords of the South Plains".⁵⁵ Wallace and Hoebel at least discussed the Comanche's environment before narrating their inevitable "losing battle" against entering the "White Man's Road."⁵⁶ Even more essentialising, to the point of being racist, is Gerald Betty's *Comanche Society: Before the Reservation*, which insists that "human social and kinship behavior [...] impelled the course of their history[.]"⁵⁷ Neither the sobriquet "Lords of the South Plains," nor dismissing the Comanche as kinship driven exotics gets at the environmental basis of their Empire on the Plains. Cultural narratives of the aboriginal groups of the Study Area distance the people and their actions from the environment. The theoretical problem faced in writing this dissertation then remains, what were the indigenous landlords of the Study Area doing there at Contact and before Conquest?⁵⁸ Were they merely wandering about a Great Desert?

⁵⁵ Ernest Wallace and E. Adamson Hoebel, *The Comanches: Lords of the South Plains*, (Norman OK: Red River Books, 1986[1952]).

⁵⁶ Wallace and Hoebel (1986[1952]):351-353.

⁵⁷ Gerald Betty, *Comanche Society: Before the Reservation*, (College Station: Texas A & M, 2002): 144. One problem with the anthropological approach is the elevation of cultural content over historical discipline. In discussing Comanche violence, Betty's narrative skips from 1831, to the "1720s and 1730s," to 1855, to 1808 – all in the space of a page and a half of text (132-133). Betty's book is not to be dismissed, however. Apart from his fetishization of kinship, the author makes some very good points about Comanches and pastoralism, and even transhumance.

⁵⁸ Anthropologist Marshall Sahlins was a major influence on this work and the theoretical approach; "in case there were any lingering doubts about the relevance of aboriginal people[.]" He was referring to Spartans in the eyes of Athenians; a reminder that we were once all aboriginals. Marshall Sahlins, *Apologies to Thucydides: Understanding History as Culture and Vice Versa*. (Chicago: University of Chicago Press, 2004): 88..

Unquestionably, nature both imposes limits upon and provides opportunities for those human groups who inhabit a specific region.⁵⁹ These limits and opportunities are different for human groups at different stages of cultural development.⁶⁰ Comanches no more understood the vast wealth in hydrocarbons underlying great portions of the Study Area than did the various 18th–19th century euramericans who fought them for it. Contrarily, all of those groups understood that the Southern Plains afforded a wealth in grazing land, and that the region could either support a thriving population or generate wealth, if only it could be secured militarily and economically. If the study area had no intrinsic value it would not have been so heavily explored, assayed, surveyed, mapped, and plotted by so many different entities, in spite of desert mythologies.⁶¹ Neither would it have been so fiercely defended by various peoples who can be shown historically to have abandoned other regions without fighting to the death over it as did the Apache, Comanche, Pawnee, Osage and other major aboriginal groups.⁶² This materialist focus undergirds the theoretical frame of this dissertation: human groups organize themselves around the procurement and protection of resources upon which their culture coalesces. This violent process, known as *resource capture*, “occurs when powerful groups” recognize resources—in the Study Area these included grazing land and the biomass it supported—and used their power to achieve the governing of “resource access.”⁶³ The aboriginal groups of the Study Area developed and maintained impressive material, military and socioeconomic cultures that

⁵⁹ Not an original thought; I am indebted to all of the following for the theoretical underpinnings of this dissertation: Karl Marx, Fernand Braudel, Cormac McCarthy, Marshall Sahlins, and James Malin.

⁶⁰ Maurice Godelier, “The Object and Method of Economic Anthropology,” in *Relations of Production*, edited by David Seddon, (London: Cass, 1978[1965]): 60ff.

⁶¹ This notion informs this thesis from its inception. If the Study Area was indeed a desert, why did the area attract so much attention from the various Euramerican political entities from 1700 on? The Comancher a was defined in part internally by the efforts of the Comanche, but also externally by the way in which America, Texas and Spain/Mexico treated with the area and its Comanche populace.

⁶² For the Pawnee, see Richard White, “The Pawnees,” *The Roots of Dependency: Subsistence, Environment, and Social Change among the Choctaws, Pawnees, and Navajos*, 147-156 (Lincoln: University of Nebraska Press, 1988[1983]). No historian wrote aboriginal studies that more thoroughly considered groups such as the Pawnee as rational actors in a socioeconomic and environmental cosmos than White. Also, note the excellent map, “The Pawnee Homeland”, at 150. The recommended Osage (Rollings) and Comanche (Hämäläinen) monographs having been introduced earlier; I am aware of no comparable study on the Apache.

⁶³ Thanks to Thomas Homer-Dixon and his excellent study, *Environment, Scarcity, and Violence*. (Princeton, NJ: Princeton University Press, 1999): 14ff, Chapters 2 and 4 more generally.

believe the existence of a great environmental desert on the western Great Plains. The American campaigns to conquer the Study Area and capture its resources would likewise belie the GAD.

DuVal's *The Native Ground* offers an exemplar of how writers consumed with the interstices of euramerican and aboriginal culture can miss or dismiss the vital connections between aboriginal groups and the environmental world. Given that Nature both imposes limits and provides opportunities, how best to recognize and map those connections? Environmental Historian William Cronon, writing of similar activities in a different environment, wrote that human groups in

drawing boundaries within which their exchange and production occur [,] label certain subsets of their surrounding ecosystems as resources and so locate the meeting places between economics and ecology.⁶⁴

GIS supplied a methodology for putting limits and opportunities on a map (Cronon's "meeting places"); the problem then remained of how to recognize or conceptualize them. Historians have traditionally looked at the past through the lens of the archives, and the archives would have us believe that the Study Area was the Great American Desert, a place lacking in archivable/civilized meeting places. The limits and opportunities, or "meeting places", for American farmers and politicians were not necessarily coequal with those of the Osage or Comanche. This in a nutshell is what this study intends in using the term biohistory as a theoretical approach.

Biohistory levels the cultural ground by positing that all human groups share a hunter-gather past, that biological commonalties outweigh cultural and "racial" differences, but that "biology and culture shape human behavior, and we need to recognize the roles of both if we are to gain a proper understanding of our history."⁶⁵ Biohistory stems from Fernand Braudel's *longue durée* and Edward O. Wilson's "deep history,"⁶⁶ and demands of its practitioners the theoretical necessity of considering the pre-historical past along with the historical. Since in the Study Area the pre-historical past is only two centuries removed from today, that task is not as onerous as might be presumed. Anchoring this study in the earliest records brings in the French

⁶⁴Cronon (2000[1983]): 165

⁶⁵ Robert S. McElvaine, "Biology as a lens: The Relevance of Biohistory." *The Chronicle Review* (49:8, 2002): B10. Accessed online Tuesday, October 20, 2009 <http://home.millsaps.edu/mcelvrs/Relevance_of_Biohistory.htm>.

⁶⁶ McElvaine (2002): B10.

and Spanish records rather than re-telling the American story yet again, thus avoiding, in William Cronon's words, "two-point analysis which contrasts ... before and after[.]"

This dissertation does not utilize a separate literature review chapter, as it discusses a vast region, its peoples, and environments over a period of four centuries. The discrete chapters touch on a number of bodies of historical lines of enquiry, geographical regions, methodological and theoretical approaches. In other words there is no *one* literature to capsule. The chapters discuss the relevant literatures as they relate to the subject area at hand, and have made efforts to consider the most relevant contemporary sources. Secondly, this study is critical of several historical narratives, including obviously the Desert mythology, as well as bison populations and locations, Plains Indian culture and populations, and others. These questions are dealt with as they appear in the overarching historical narrative. Comanche population for instance, is dealt with in its time frame. It would be redundant to discuss the literature *in situ*, and then recapitulate the same critique. The exception to this model is in the concluding chapter, "Persistent Mirage", wherein I briefly discuss the textual history of the GAD myth and its uses from 1820 to the present. Critical engagement with the sources and secondary literature is then a narrative component of this discussion.

The discussion of these themes follows, with one exception, strict chronological sequence beginning with the earliest argonaut. The second chapter, "Before the Conquistador," introduces the seminal texts of Cabeza de Vaca, the first European to approach the Southern Plains and leave written records. Many of the recurrent themes are introduced in this chapter, which also serves as an introduction to GIS methodology. Chapter 3 discusses Coronado and the conquistador era, as well as the problems of mapping texts that are not written as daily journals, but rather as narratives. A primary concern is the Spanish meaning of terms such as *despoblado* and *desierto*, and whether Coronado did indeed call the Great Plains an environmental desert. Chapter 4 discusses the Spanish Colonial era in New Mexico, and the observable impacts on the aboriginal world in the Study Area. Chapter 5 is a record of Spanish efforts to extend their influence onto the Plains, and what that process revealed about the Study Area. Chapter 6 constitutes a discussion of the Gallic meaning of desert and of French mapping practices, and analyzes Bourgmont's remarkable trip to the Padouca.⁶⁷ While Bourgmont's expedition

preceded one of the Spanish argonauts in Chapter 4, it made sense to discuss the Spanish efforts before turning to the French.

Chapter 7 is the first treatment of the extraordinary career of the French Spaniard, Pedro Vial. Vial's several trips across the Study Area in the 1780s contributed significantly to euramerican understanding of the Great Plains, although apparently his knowledge was never put to use by his Spanish masters. The various modes of euramerican exchange and colonialism are also discussed and mapped as revealed in the siting of forts, towns, presidios and *et cetera*. These are presented on the accompanying maps as they appeared historically, along with definite boundaries and borders.

Following Vial's exploits, the American era began. Chapter 8 introduces the Jeffersonian era of western exploration and its many impacts. Lewis & Clark's role in advancing the state of geographical knowledge in Jefferson's day is briefly examined. That the Jeffersonian argonauts were unable to penetrate the Study Area says much about the political realities of the day while yielding very little direct knowledge of the TransMississippi West. Chapters 9 and 10 yield the core information of the mythical desert as well as a wealth of mappable environmental data. Zebulon Pike is the subject of Chapter 9, and Stephen Long of Chapter 10. The ultimate chapter, "Persistent Mirage,"⁶⁸ recapitulates the various arguments and themes and presents thematic GIS maps of the Study Area.

Through mapping all these different factors, it is possible to draw some striking conclusions about the categories of interest such as Aboriginal populations, locations, and group identity as well as bison and caught/wild horse populations and locations, and the spread of firearms. Of particular interest is the relationship between cow bison and grass regimes that emerges from argonaut observations.

Agriculture, as much as bison, was at the center of the lives of the aboriginal inhabitants of the Study Area in prehistoric and early historical times. This agriculture was practiced in riparian valleys where the soils were refreshed annually by nutrient-bearing flood waters. Annual soil renewal meant that these groups, identified as they were 'discovered' by argonauts,

⁶⁸ In the context of this argument, the term mirage has some value because of its "now you see it and now you don't" meaning, and also that a mirage is meant to be the reflection of something real. The prehistorical existence of environmental deserts in the Study Area furnishes the reality beneath this mirage.

were then able to maintain long term presence at specific sites. Producing surplus grown foods allowed for larger populations which in turn led to more elaborate expressions of culture such as pottery, food storage, permanent houses, et cetera. These agricardos became Meccas for trade, a term that indicates the combination of agriculture and trade at 'permanent' sites. There is no accident argonauts sought out these agricardos in their travels as they promised identifiable foodstuffs and trade goods. Agricardos were instrumental to the transmission of horses and firearms, as well as deadly pathogens, across not just the Study Area, but the entire Great Plains.

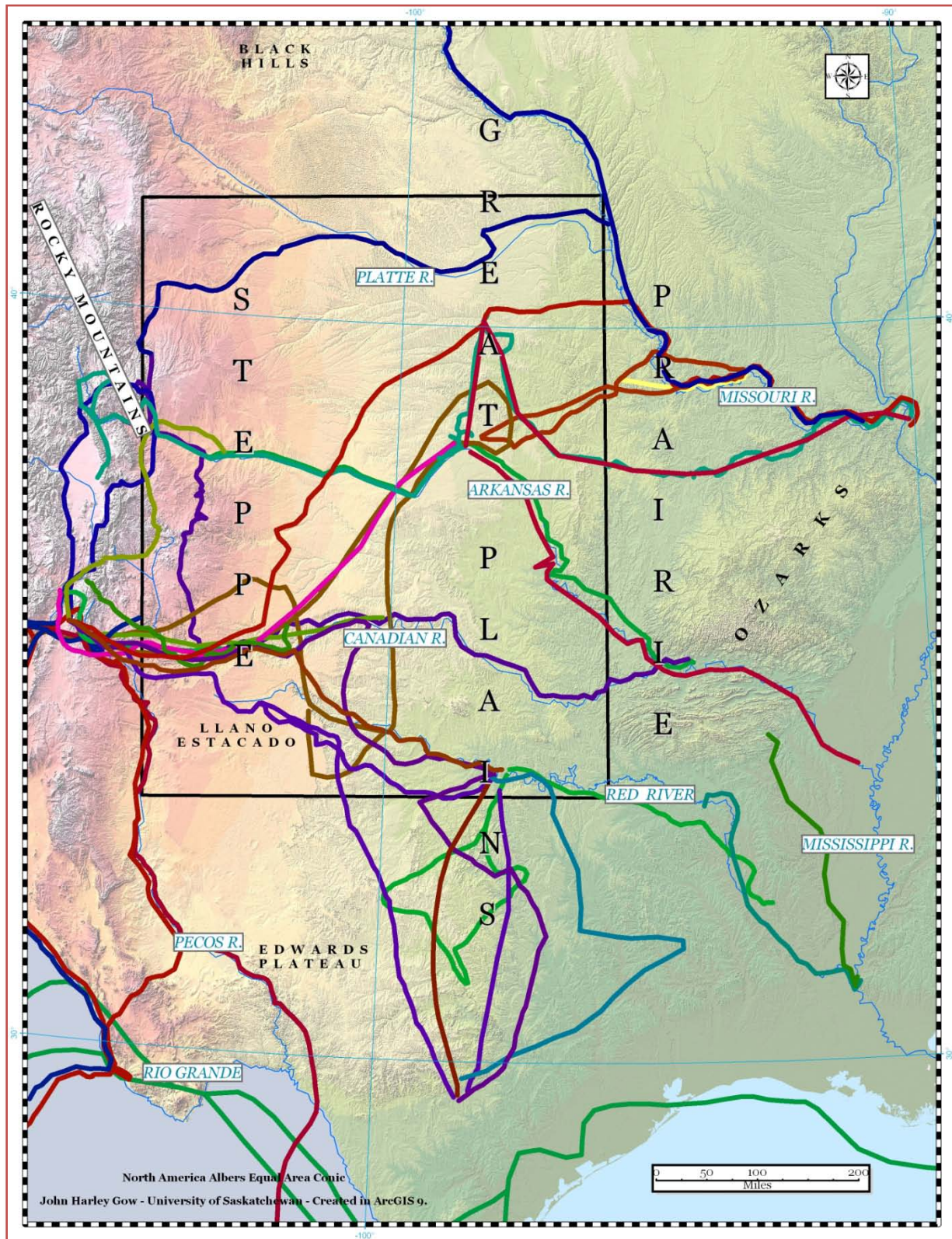


Figure 1.7. Argonaut Routes, 1534-1820.

CHAPTER 2

Before The Conquistador: The Spanish Approach The Southern Great Plains: 1530-1540.

Many writers have attributed to the Spanish the beginnings of the Great American Desert myth.¹ While this work takes some small advantage of archaeological and other pre-historical sources for environmental and cultural depth of field, the temporal focus commences with the advent of historical euramerican journalism on the Central-Southern plains. Pride of place then belongs to the Spanish travelers, explorers, missionaries and conquistadores; the first euramericans to approach The Great American Desert and record their impressions;² of these, the first argonaut to approach the Study Area was Álgvar Núñez Cabeza de Vaca.

Spanish interest in and reportage of the New World had begun with Christopher Columbus and his celebrated 1492 “discovery” of Española. In 1498 Columbus briefly set foot upon the soil of *North America* in *Florida* and he was followed by Ponce de Leon who in 1513 was turned back from his search for mystical waters by effective aboriginal resistance.³ De Leon set the pattern for Spanish exploration and exploitation of America in that he was based out of San Juan, Española, having secured his fortune through stripping that island of placer gold. Those who followed de Leon would also ship from played-out Caribbean islands—Hispanola,

¹ Walter Prescott Webb. *The Great Plains*. Lincoln: University of Nebraska Press, 1981[1931].153. “Coronado laid the foundation of the idea of the Great American Desert[.]” Donald Worster wrote, “Coronado arrived during one of [pioneer dendrochronologist] Harry Weakley’s worst droughts. Thus, 400 years before the dirty thirties, civilization came to the southern plains and left in disappointment [.]” Donald Worster, *Dust Bowl: The Southern Plains in the 1930s*, 2nd ed. (New York: Oxford University Press, 2004 [1979]): 76

² Webb noted that the Great Plains were rarely, if ever, the focus of Spanish attentions (op cit). There are many reasons why the Spanish never colonized the Plains, possibly commencing and ending with the absence of gold or silver. Apart from de Vaca, recorded Spanish travel on the Plains then consists of a few exploratory expeditions and several military efforts against various Indian groups. The foci of these exercises tended to be gold, proselytization, and punishment, and only incidentally environmental reportage.

³ This thumbnail sketch of Spanish activities condensed from Carl Ortwin Sauer, *Sixteenth Century North America: The Land and the Peoples as seen by the Europeans*. (Berkeley: University of California Press, 1971): 3-32.

Puerto Rico, Bimini—and extend the search for mineral wealth on mainland America. Early defeats on the mainland slowed the Spanish advance, but it seems each failed voyage returned with stories of some imaginable prize further inland. Columbus had in fact arrived in 1492 with the legend of an Island of Seven Cities well-planted in his mind.⁴ In 1519 Cortes landed near *Veracruz* and began his decade-long conquest of Mexico, and established that there was in fact great wealth in America. He was followed by Francisco de Garay who conducted slaving raids north of Cortes, and was the first Spaniard to establish the idea of great wealth to the north and cities and pueblos with great populations.⁵ The Spanish soon found that there was an Aztec trade in minerals from the North, around what we know as *Santa Fe, NM*.⁶ These were the first textual links between the burgeoning Spanish enterprise in the New World and the Study Area.

Spurred by these claims, and the fact that Cortez had ‘gone rogue’ and appeared to have lost his ties to legitimacy, other enterprising Caribbean-based Spaniards funded expeditions. These expeditions briefly flourished for as long as the Spanish crown lacked a functional presence in Mexico. The last of these was the Narváez expedition of 1528, for which Cabeza de Vaca was the recording officer.

Cabeza de Vaca, 1534-1535.

Cabeza de Vaca was in 1528 a true gold-seeking argonaut, set out from Spain with two hundred compatriots on an enterprise “para conquistar y gobernar”⁷, to conquer and govern, La

⁴ History patiently awaits an answer to the question as to why it was always seven cities up the road apiece, and not four or eleven. That these apocryphal cities-sites, Cibola, Saguenay, et cetera, were always just upriver or across the next plain, sea, or mountain range, shows an aboriginal structural-cultural response to conquistadorian depredations deserving of a monograph. That the Spanish / French / British, et cetera, always fell for the story should also be of interest. This touching faith that a huge reward awaits just out of reach both helps explain, I believe, certain religions as well as stock market bubbles and crashes, and helps reveal euramerican structural-cultural responses to aboriginal strategies.

⁵ The presence of great populations appears to have meant to the Spanish the presence of available stores of food, indicating the practice of agriculture. Since the Spanish seem to have always been starving when they landed or otherwise appeared in aboriginal territories, the likely availability of plentiful and identifiable foodstuffs was a draw for them. The notion of purchasing these goods does not seem to have occurred to any of the Spanish argonauts, but for de Vaca who was powerless save his wits.

⁶ Sauer (1971): 37. This mineral wealth was in the form of turquoise, highly valued by the Azteca. To the Spanish it indicated mining activity and the possibility of gold and silver strikes.

⁷ Rolena Adorno, and Patrick Charles Putz, ed. *Álvar Núñez Cabeza De Vaca: His Account, His Life, and the Expedition of Pánfilo De Narváez*. 3 Vols. (Lincoln: University of Nebraska Press, 1999): Vol. 1, 22

Florida in what would become infamous as the “ill-fated Narváez expedition.”⁸ In the imperfect geographical understanding of the times, Spanish grants were awarded in much the same fashion as would be the later English colonies further north. La Florida was then part of *terra firme*, which extended from the Atlantic seaboard westward for unfathomable distance to the Pacific, as then did the grant of Narváez.⁹ De Vaca does not in his journal explicitly state the purposes of the expedition, although these are revealed in part soon after making land near *Tampa, Florida* in late April 1528, when the Spanish were despoiling the aboriginal populace.¹⁰ Finding bits of gold, “muestras de oro”, the invaders were assured that there was “mucho oro” and everything the Spanish valued “very far away” in a “province called Apalachen”.¹¹ In pursuit of “mucho oro”, and through a series of disasters natural and man-made, de Vaca was shipwrecked on the Gulf Coast of *Texas*, and spent the next seven years, 1528-1535, as a hostage cum guest of various indigenous groups on the Gulf islands and plains of *Texas*. In 1535 de Vaca either obtained his freedom or escaped, and traveled by foot from the Gulf to the Rio Grande River, then north and west into the *Mexican state* of *Sonora*, where he and two surviving companions were rescued by countrymen exploring north out of *Mexico City*.¹² De Vaca would return to Spain in 1537 and secure funding for his own expedition to *South America*. The record of his

⁸ Alex D. Krieger, *We Came Naked and Barefoot: The Journey of Cabeza De Vaca across North America*. Edited by Margery H. Krieger. (Austin: University of Texas Press, 2003): 141. “Ill-fated” barely does justice to the travails suffered by these argonauts. The expedition landed on the wrong coast of Florida, and started with a mass desertion followed by hurricanes, shipwreck, starvation, mutiny, cannibalism, and enslavement of the hardiest. Of some 600 who landed in Florida, “242 men ... returned to the Florida coast after exploring inland.” These 242 were then reduced to some half-dozen survivors in Texas.

⁹ Adorno, v.3 (1999): 29. The eminence of geographer Carl Sauer (*The Early Spanish Main*, 1966) established a narrower meaning of *terra firme* meaning the Eastern seaboard. To de Vaca and other Spaniards the term meant, “the mainland of the Americas” inland from the Eastern seaboard points of contact.

¹⁰ The primary “official” objective of the Narvaez Expedition was to counter the rogue Cortes’ illegal or unsanctioned armed seizure of Mexico. See, Sauer, Carl O. *Seventeenth Century North America*. (Berkeley: Turtle Island, 1980): 17.

¹¹ Adorno, vol. 1 (1999): 38, 39. The company would precipitate an all out war in Apalachen when they found no gold or other valuables. The unidentified Natives drove the Spanish away in a hail of arrows. As the Spanish progressed by land around the Gulf, they discovered the fore-warned Indians employed a scorched earth policy to thwart their advance. Villages and crops were burnt, and anything useful, including canoes and water vessels were hidden or destroyed. The Spanish began eating their horses and had to fight from water source to water source to survive.

¹² Andrés Reséndez. *A Land So Strange: The Epic Journey of Cabeza De Vaca*. (New York: Basic Books, 2007). This is a readable introduction to de Vaca and the Spanish enterprise more generally, with a useful and current bibliographical essay.

adventures would become the bedrock story of the Spanish enterprise in the Southwestern Borderlands.

As currently understood, Cabeza de Vaca traveled by foot from the “Isle of Ill Fate”, Malhado,¹³ or Galveston across southern Texas to the Rio Grande, then north and west to proximate ‘El Paso.’¹⁴ At first a slave, then a trader, and later a sage/doctor to various Gulf Coast aboriginal groups, de Vaca saw the southernmost edges of the Great Plains from a perspective denied most argonauts; his survival was predicated upon his wiles as a slave and not upon the military might of a Conquistador. Few Conquistadores experienced the “extreme integration into Indian society,”¹⁵ de Vaca enjoyed, or endured. This makes de Vaca’s account interesting as an environmental source as he was forced to live as his hosts lived. He was therefore a good, or at least a more connected, reporter of environmental factors as experienced on the ground by the aboriginal inhabitants than the average conqueror. De Vaca came to know first-hand, for instance, that different Indian groups fired the bush/grass for different purposes, at different times of the year. His reports give some good insight into how the aboriginal cultural economy worked just south of the Study Area at the dawn of contact. So, while he never trod upon the Study Area, he had commerce with people who did. We know de Vaca crossed Texas coastal areas and came near to areas in Coahuila that we know today as desert lands; perhaps he then described environmental deserts. If so, his impressions and the language he used in describing those impressions, can be useful in helping to decipher later Spanish records of the Study Area. De Vaca then provided the very influential first reports that would impact the foreknowledge of all those conquistadores who followed him to the Borderlands.

¹³ Oviedo took umbrage with this term, coined by de Vaca. Perhaps he thought it would make a bad impression on potential investors.

¹⁴ Reséndez, A. (2007): iv-v. A series of maps in this volume are a synthesis of the current thinking on de Vaca’s route. As with any of the Spanish argonaut routes, this one remains highly contested. Apart from authorial and political differences, these routes are all difficult to track because of textual matters and the fact that things have changed in four hundred years. One intrepid scholar, Cleve Hallenbeck tried in 1940 to reconstruct de Vaca’s route by sleeping naked on the ground, as the Spaniard had, to test how far north he had traveled in the 1530s tested against 1930s winter temperatures. Modesty forbade Hallenbeck lighting fires at night. Even without considering evidence that the Texas plains were a much cooler and damper place in de Vaca’s day than Hallenbeck’s, this methodology leaves much to be desired. Cleve Hallenbeck, *Álvar Núñez Cabeza De Vaca: The Journey and Route of the First European to Cross the Continent of North America*. (Port Washington, NY: Kennikat Press, 1971[1940]).

¹⁵ Tzvetan Todorov. *The Conquest of America: The Question of the Other*, Translated by Richard Howard. (New York: HarperPerennial, 1992[1982]): 199.

The flip side of de Vaca's status and value as an observer was that he could not go where he wanted when he chose to do so. Firstly, he was always afoot and almost always poorly provisioned. Secondly, his movements were largely determined by his abilities to either evade aboriginal oversight or to manipulate it to his own ends. Even when he was able to 'make' the Indians ("people of the piñon nuts") turn north, much against their will, it took days of negotiation and cajoling to accomplish; they "declined in the best way they could", for as long as they could.¹⁶ Even de Vaca's decision to turn north, which he makes sound as if it were his choice, is arrived at because his piñon Indian companions resolutely refused to "go to where the sun set".¹⁷ His movements were then much more constrained than, say Coronado's, who travelled by horse and at his own pleasure, relatively speaking.¹⁸ Had de Vaca gone to see the buffalo Indians as he wanted to do perhaps we would have a record of the Study Area from the 1530s.

Obviously, de Vaca kept no written daily journal as the material bits of Spanish culture were washed away from him prior to his landfall. As can best be constructed, de Vaca wrote down his account after being returned to Spanish society in Mexico. The best guess is that, after having been debriefed in Mexico, he wrote his account beginning in 1537 which was published as *La Relación* in 1542. *La Relación* was re-published as *Naufragios*, or "the disasters", in the collected history *Historiadores Primitivos de las Indias Occidentales* by González de Barcia in 1749.¹⁹ From these publication dates it might be assumed that de Vaca only wrote up and published his account years after the events, making their usefulness as geographic and environmental observations slight. However, Gonzalo Fernández de Oviedo y Valdés (after, Oviedo) wrote an official record of the survivors' accounts which was published in 1535 in *La historia general de las Indias*.²⁰ It is interesting that the official Oviedo report appeared prior to de Vaca's own. Comparing the Oviedo and de Vaca texts allows for checking versions. We have Oviedo's assurance from 1535 that de Vaca had included everything in "this relación," and

¹⁶ Adorno, vol. 1 (1999): 217.

¹⁷ Adorno, vol. 1 (1999): 215.

¹⁸ Of course Coronado was manipulated by his Indian guides as well

¹⁹ Adorno, vol. 3 (1999): 383.

²⁰ Gonzalo Fernández de Oviedo y Valdés. *Historia general y natural de las Indias*. (Madrid: Ediciones Atlas, 1959). A translation is included in Alex D. Krieger, 2003.

that “everything he reported was understood to be true.”²¹ Oviedo then reassures us that the *Relación* had been recorded while the events were fresh in de Vaca’s memory. For interpretive purposes, it is helpful to know that de Vaca’s recollections of the Rio Grande section of his trek were at most a year or two old in his memory when they were first committed to written record.

Since 1535 there have been some fifty editions published. Adorno went back to the original de Vaca text which is presented alongside a new translation. This text is compared to Oviedo and *Relación* in notes, clearly separating original from later editorial accounts. Apparently, many later accounts were a clutch bag of various editions.²² As Adorno and others have noted, the primary difference between the original de Vaca text and Oviedo’s compendium, is de Vaca’s “unusually realistic and sympathetic descriptions of indigenous life.”²³ Oviedo stripped from his account all the differentiations between Indian groups, for instance, that make help de Vaca such a remarkable document. The vast range of aboriginal culture de Vaca reported is reduced to an aboriginal type in Oviedo, an early avatar of Saidian orientalism.²⁴ This quality in the *Relación* has resulted in de Vaca’s being accorded cult hero status in both ethnographic and postmodern circles. Authors T. N. Campbell and T. J. Campbell regard de Vaca as writing perhaps the earliest ethnography.²⁵ Other writers, no pun intended, insist de Vaca foreshadowed Homi Bhabha’s notion of hybridity in adopting or adapting to, indigenous lifeways.²⁶ Nan Goodman has written that de Vaca was neither a “plausible” ethnographer nor a hybrid who resisted, quoting Homi Bhabha here, “the binary opposition of racial and cultural

²¹ Adorno, Vol. 3 (1999): 3.

²² See the discussion in the Introduction, xiv ff, Adorno Volume 1.

²³ Nan Goodman. “Mercantilism and Cultural Difference in Cabeza De Vaca’s *Relación*,” 229-50. *Early American Literature* 40:2 (2005): 229

²⁴ Edward W. Said. *Orientalism*. (New York: Vintage Books, 1979): 305. In opposition to de Vaca’s rich description of aboriginal groups, Oviedo reduced them to a general category perhaps best described as military problem. Here taking from Said the idea that “ethnic origins and religion are the best, or at least the most useful, basic and clear, definitions of human experience [is a] ... debatable question.” It would seem that no one has addressed the differing worldviews of de Vaca and Oviedo, at least in English. This would seem to be a worthy project for some future writer.

²⁵ T. N. Campbell and T. J. Campbell. *Historical Indian Groups of the Choke Canyon Reservoir and Surrounding Area, Southern Texas*. (San Antonio: Center for Archeological Research, University of Texas 1981).

²⁶ Alan J. Silva. “Conquest, Conversion, and the Hybrid Self in Cabeza de Vaca’s *Relación*,” *Post Identity* 4:1 (1999).

groups[.]”²⁷ Goodman plumps for a de Vaca whose remarkable attitudes towards aboriginals stemmed from his mercantilist world view and his was therefore but “one of many in a long line of Hispano-American cultural mediations that continue to our day.”²⁸

This paper regards de Vaca as an exceptionally capable and astute individual who consciously observed his surroundings, environmental and cultural, with a view to surviving at any cost. Aboriginal cultures and actions therefore presented to de Vaca opportunities and obstacles on the same order as cold temperatures, poor food, and no clothing. Perhaps in his travels he became of necessity a hybrid individual culturally, although most certainly he maintained his Spanishness. De Vaca’s accommodations to, and adoption of, aboriginal practice was a temporary and enforced environmental hybridity. Of course de Vaca could have resisted aboriginal culture entirely in which case he surely would have died early, as did the “ill-fated Narváez” and hundreds of his followers. In the *Relación*, de Vaca asserted that he had protested Narváez’ violent plunder of the ‘Florida’ Indians. Goodman’s argument that he had a mercantilist ethos that favored a more transactional approach to the natives of terra firme in opposition to Narváez’ standard conquistador ethos is interesting in that it perhaps helps us understand de Vaca’s world view, and likely skill set as well. Simply put, we cannot know how de Vaca would have acted had Narváez’ approach been successful and secured pots of gold, in which case de Vaca would have shared mightily as expedition treasurer. For the purposes of this work, it is not a concern as to why de Vaca labored his way out of slavery and engaged in trade with aboriginal groups, or whether he considered himself a superior being by so doing. Our concern is what he noticed and reported having the opportunity to do so.

From the *Relación*, the evidential data sought are references to climate, topography, environment, and the interactions between the indigenous population and the above factors. Of particular interest is the language de Vaca used to describe the landscape and its biotic components. The accounts would be closely studied by generations of Spanish argonauts who travelled to Spanish America. Did de Vaca gain any knowledge of the Study Area that might have influenced future argonauts? Did the notion of a Great American Desert begin with the *Relación*?

²⁷ Goodman (2005): 231. The Homi Bhabha quote is from *The Location of Culture* (New York, Routledge, 1994): 207.

²⁸ Goodman (2005): 230-31.

While the entirety of de Vaca's text was surveyed to understand his impressions, only the part of his journey closest to the Study Area, or his journey from the Gulf coast to, and then along, the Rio Grande is mapped and related herein. There have been several theoretical routes proposed for de Vaca. Perhaps the least fanciful of these is that proposed by Alex Krieger and largely adopted by many later writers including Reséndez and Adorno (Figure 2.1).²⁹ Krieger was an archaeologist who spent decades working sporadically on the de Vaca route. Besides his on the ground work in tracking down locations, Krieger also studied a myriad of sources including archaeological, anthropological, scientific, and historical works. Krieger checked, for instance, seasonal and geographic ranges for foodstuffs and plants mentioned in de Vaca. All of this background work, stated in footnote form with the translated text, gives Krieger's proposed route a rational construction. Notice too that Krieger includes route alternatives (Sections 'A', and 'G') where he was not able to make a definitive case for certain locations. This approach obviously influenced the map makers who produced the Adorno maps, and I regard this as best scholarly practice and adopt this model where applicable.

While Krieger's various editors are scrupulous in detailing the genesis of the text and translations, there is no information given on who produced the finished maps from Krieger's originals. Neither were any of Krieger's manuscript maps reproduced. This form of editorial negligence is unfortunately common and enduring.

²⁹ Krieger worked on *We Came Naked and Barefoot* for decades before it was published posthumously in 2002. His route and interpretations were published in his dissertation in 1955, as well as in several later articles.

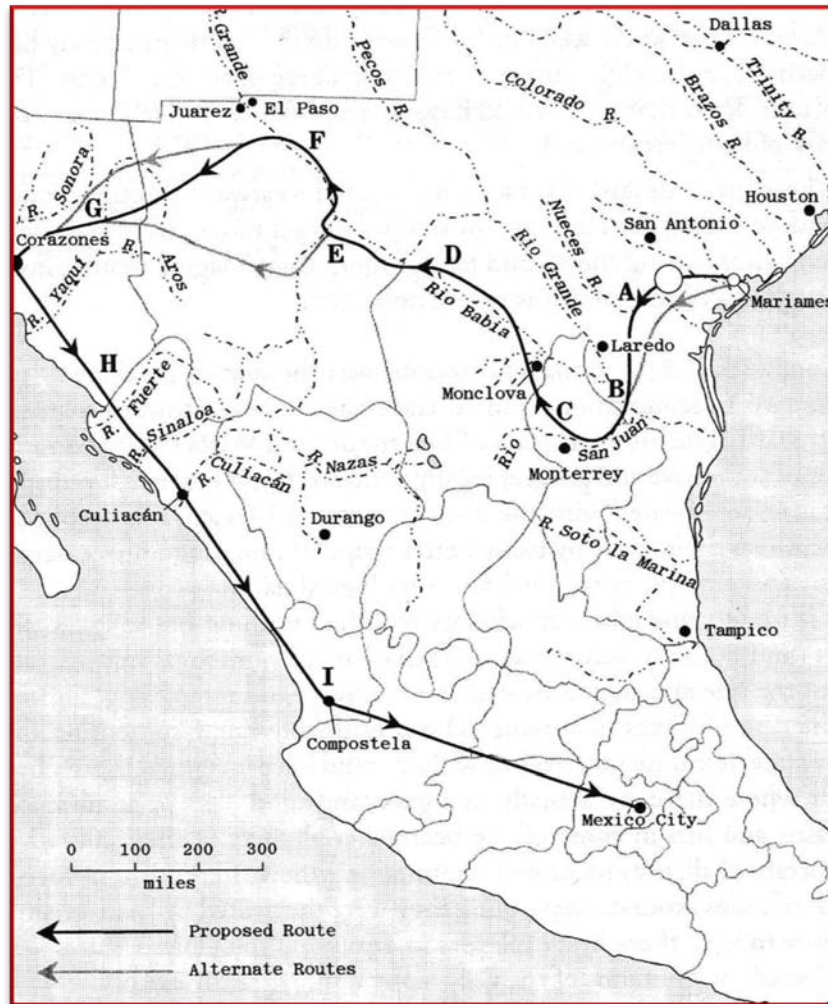


Figure 2.1. Krieger. “Overview of the Transcontinental Journey,” Krieger (2003): 145. Printed maps are uncredited, although Krieger produced his own maps. The grey lines clearly indicate the author’s acceptance that de Vaca’s route must remain conjectural.

Figure 2.2 reproduces a portion of the map “Areas traversed by the Narváez expedition” from Adorno that generally adheres to Krieger’s route. This map (after, Adorno map), which again does not credit its creator, is interesting in showing de Vaca’s route as broad swathes representing a range of possible sites, as opposed the standard bold line delineating the exact route of the argonaut. Refreshingly, the map eschews the ‘traditional’ use of modern state lines to locate the reader geographically. This forthright approach realistically represents what is factually known about the specific route locations. These include where de Vaca was found by his rescuers in Mexico, certain river crossings such as the Rio Grande and the Rio de Conchos,

In contrast, Figure 2.3 is a map of de Vaca's route as envisioned by the editors of the *Historical Atlas of Texas*, 1989 (after, Stephens map). This map is reproduced here in part to show some of the difficulties associated with mapping argonaut routes that do not contain the geographic specificity of later modern scientific expeditions.

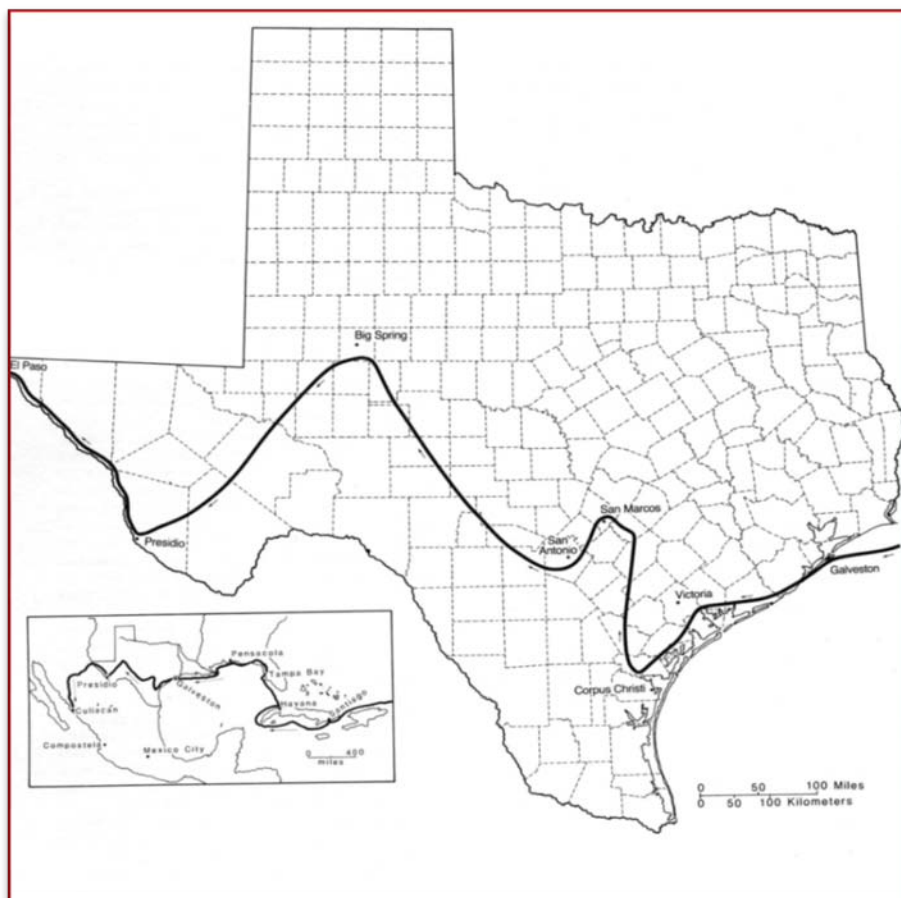


Figure 2.3. “Cabeza de Vaca,” in A. Ray Stephens, and William M. Holmes, eds. *Historical Atlas of Texas*. (Norman: University Press of Oklahoma, 1989): 8. The mapmaker is not credited; however, the Preface (vii) lists several contributors to the Atlas’ maps.

A necessary element of this dissertation is to critique maps and mapping, and the Stephens and Holmes map is certainly deserving of critique. Note that this mapmaker has de Vaca traveling north as far as *Big Spring Texas*; we are not given the reason for this editorial choice.³¹ As James C. Scott wrote, maps are “instrument[s] designed for a [particular]

³¹ Stephens and Holmes (1989): 8. “The Spaniards visited with Indian tribes along the way perhaps as far northwest as Big Springs before altering their course to the southwest to the Presidio region, then up the Rio Grande to where El Paso stands today.”

purpose[.]”³² and seemingly this mapmaker’s primary purpose was confining de Vaca’s route within the borders of Texas. Other travel routes including those of Coronado and even Zebulon Pike³³ were highly contested by states competing for historical honors. We know from de Vaca’s text that he travelled by choice and navigational necessity westwards towards the setting sun. When faced with evidence of superior aboriginal culture to the north, de Vaca made a decision to travel north to contact those groups.³⁴ He reached this decision after crossing a southward-flowing major river that could only have been the Rio Grande. This report followed with de Vaca sighting and following northward mountains that must have been the Sierra Madre Oriental, placing him in Mexico and not Texas when he made his only turn northwards. De Vaca said he crossed the big river thrice; since he later reported crossing no other major rivers running north to south, it would seem that he had crossed (east to west), re-crossed, then crossed again the Rio Grande. Even trekking on the north or Texan side of the Rio Grande is misleading in that seemingly all argonauts followed the south or Mexican shore to avoid the highlands.³⁵ These strands make it highly unlikely that de Vaca travelled north to the Big Springs locale. De Vaca’s description of the mountains which he followed north make a claim for a west Texas route impossible as the topographical maps make clear.³⁶ There is also an implied surety about this route, a single bold track on a map featureless but for county grids, that belies the difficulties

³² James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*, (New Haven: Yale University Press, 1998): 87. Scott discusses the role of mapping in the service of High Modernism. The first two chapters in particular were of great use in preparing this work, particularly in making the case that local knowledge [indigenous knowledge] was vital to the imposition of the modern state; “Throughout the book I make the case for the indispensable role of practical knowledge, informal processes, and improvisation in the face of unpredictability” (7ff). This author would add climate, geography, and biotics to the list.

³³ For Pike see, Theo A. Sanborn. “The Story of the Pawnee Village in Republic County, Kansas.” *Kansas Historical Quarterly* 39: 1 (1973): 1-11. For Coronado, the route choices are catholic and legion, for instance, Pedro de Castañeda de Najera, *The Journey of Coronado, 1540-1542*. Translated by George Parker. (New York: Allerton, 1922).

³⁴ De Vaca asserted that the ‘People of the Cows’ had developed a culture better able to administer to the needs of the people - as witness the availability of protein accessibility, permanent abodes, clothing, plastic arts, et cetera - than had the coastal groups.

³⁵ Like the Arkansas River, the Rio Grande cuts around stony escarpments to the north, following gravitational logic in cutting the most direct course to sea level.

³⁶ Donald E. Chipman. “In Search of Cabeza De Vaca’s Route across Texas: An Historiographical Survey.” *Southwestern Historical Quarterly* 41: 2 (1987): 127-48. Chipman wrote, de Vaca having grown up in 6000 foot mountains in southern Spain and having seen the formidable Sierra Madres of western Mexico before writing his narrative, he “knew the difference between hills or escarpments and peaks” (144).

in finding precise sites much less entire routes for early journalists such as de Vaca. The “spatial ‘fuzzy logic’”³⁷ evident in the Stephens mapping decisions serves to bolster the alternative HGIS methodology.

Why the route matters, in terms of this dissertation, is simply that the requirements of plotting environmental factors are different than those of state boosterism. ‘Central-west Texas’ in 1530 was most likely home to a large bison population and perhaps groups of Indians who supported themselves by exploiting that resource. All later sources surveyed will give credence to these assumptions. Yet, de Vaca makes no first-hand report of either bison herds or bison-hunting in his travels. From the Stephens map route one might then presume that there were no bison in ‘central-west Texas’ in 1530. There is no question that had Vaca witnessed herds of bison and Indians practicing bison hunting, he would have recorded his impressions. Also, had he crossed the great austerity of stretches of steppe that would become known as the Llano Estacado he would have noted that, as did all future travelers; there was “not a stone, not a bit of rising ground, not a tree, not a shrub, not anything to go by.”³⁸ Simply giving credence to de Vaca’s descriptions makes the all-Texas route unlikely in the extreme. Where then, did Vaca travel?

De Vaca then did not supply the geographic specificity to facilitate plotting his route absolutely in HGIS. Only a few locations can be precisely sited within specific geographic and environmental locales or biomes. Otherwise his route was likely contained within the bounds of the combined Krieger and Adorno routes as represented in the figure below. The primary utility of de Vaca for this project is to figure Spanish environmental representation and attitudes in relation to Study Area attributes. The *Relación* also provides the opportunity to discuss many of the textual and GIS issues encountered while mapping the Great American Desert.

³⁷ Anne Kelly Knowles. "GIS and History." In, *Placing History: How Maps, Spatial Data, and GIS Are Changing Historical Scholarship*. Edited by Anne Kelly Knowles, 1-26. (Redlands, CA: ESRI Press, 2008): 19.

³⁸ The words are Coronado’s, from a letter to the King of Spain. Frederick W. Hodge, ed. *The Journey of Francisco Vazquez De Coronado*. (San Francisco, CA: Grabhorn Press, 1933): 84.

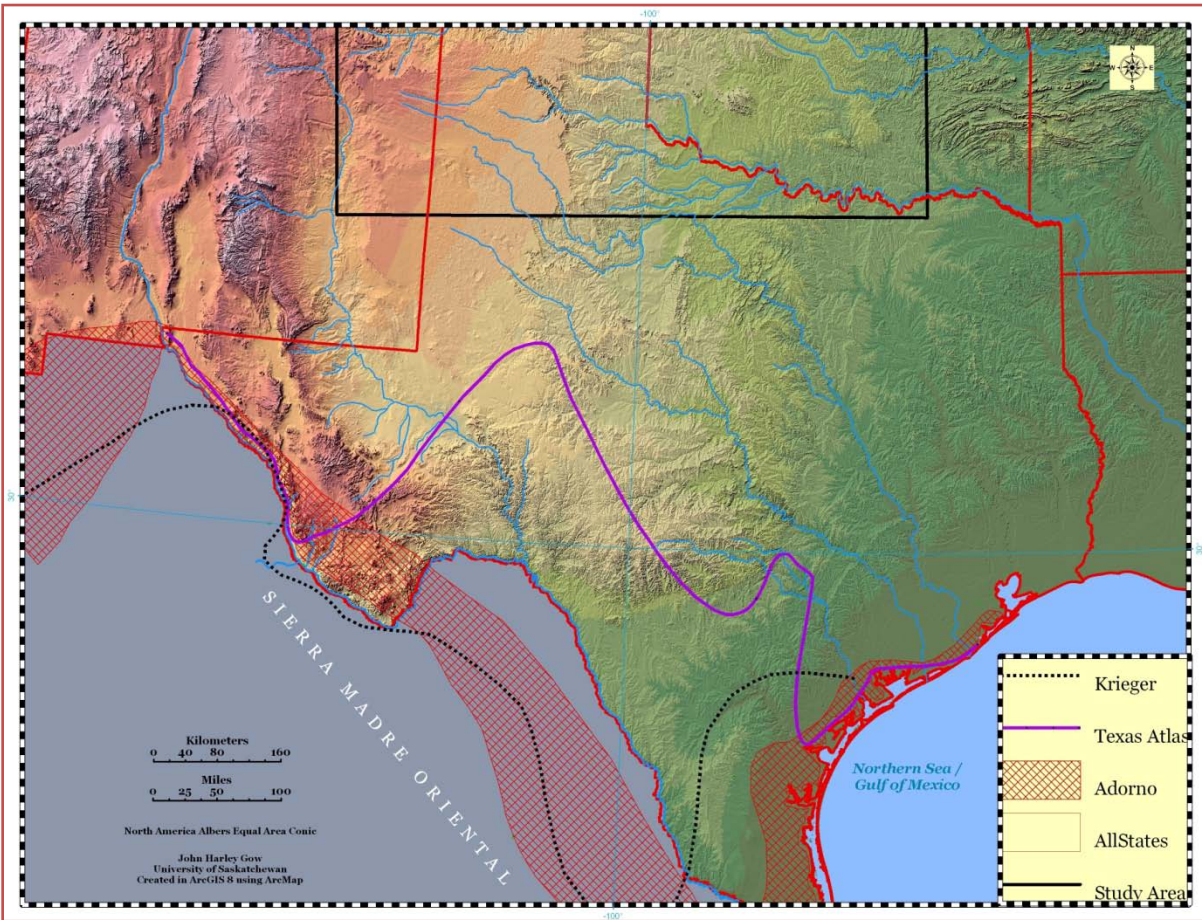


Figure 2.4. Three Routes in Relation to the Study Area. “Adorno” was digitized from Adorno v.1 (1999). “Texas Atlas” digitized from, A. Ray Stephens and William M. Holmes (1989).³⁹

Figure 2.4 is emblematic of the HGIS methodology of this project. The three routes listed in the legend are digitized representations of maps from the sources discussed above: Adorno, Krieger, and Stephens. There are some attendant problems involved in transferring hand-drawn map routes to a GIS map. Perhaps the primary problem is that drawn maps tend to be made from some indeterminate or even non-existent coordinate systems and projection; they may in fact just be ‘pictures’ of imaginative geography rather than maps representing the real

³⁹ This base map will be used throughout this paper, although the geographic focus will change to reflect textual content. The map was generated in ArcMap 9 using ESRI standard “North America” as a base. Albers Equal Area Conic projection was chosen as the standard, and The Geographic Coordinate System GCS_North_American_1983 will be used throughout. The rivers layer, “USA_ESRI\rivers.shp”, shares the same coordinates. The State Lines layer, “USA_ESRI\allstates.shp” is used here to demonstrate the Texas Atlas route. Unless otherwise noted, all other map layers and labels generated by the author, textual sources noted as applicable.

world. Routes from these maps may be further distorted when warped to GIS. The Stephens map route was digitized to “known” points *Big Spring* and *Presidio, Texas*. The other two routes were digitized directly from the source maps and are essentially pictures of the source map routes. Rather than create a route ‘out of the air’ for de Vaca, this project considers the de Vaca text, with the Adorno and Krieger routes as guides (Fig. 2.5). Events and relationships from the primary sources are then informed but not bounded by those two routes.

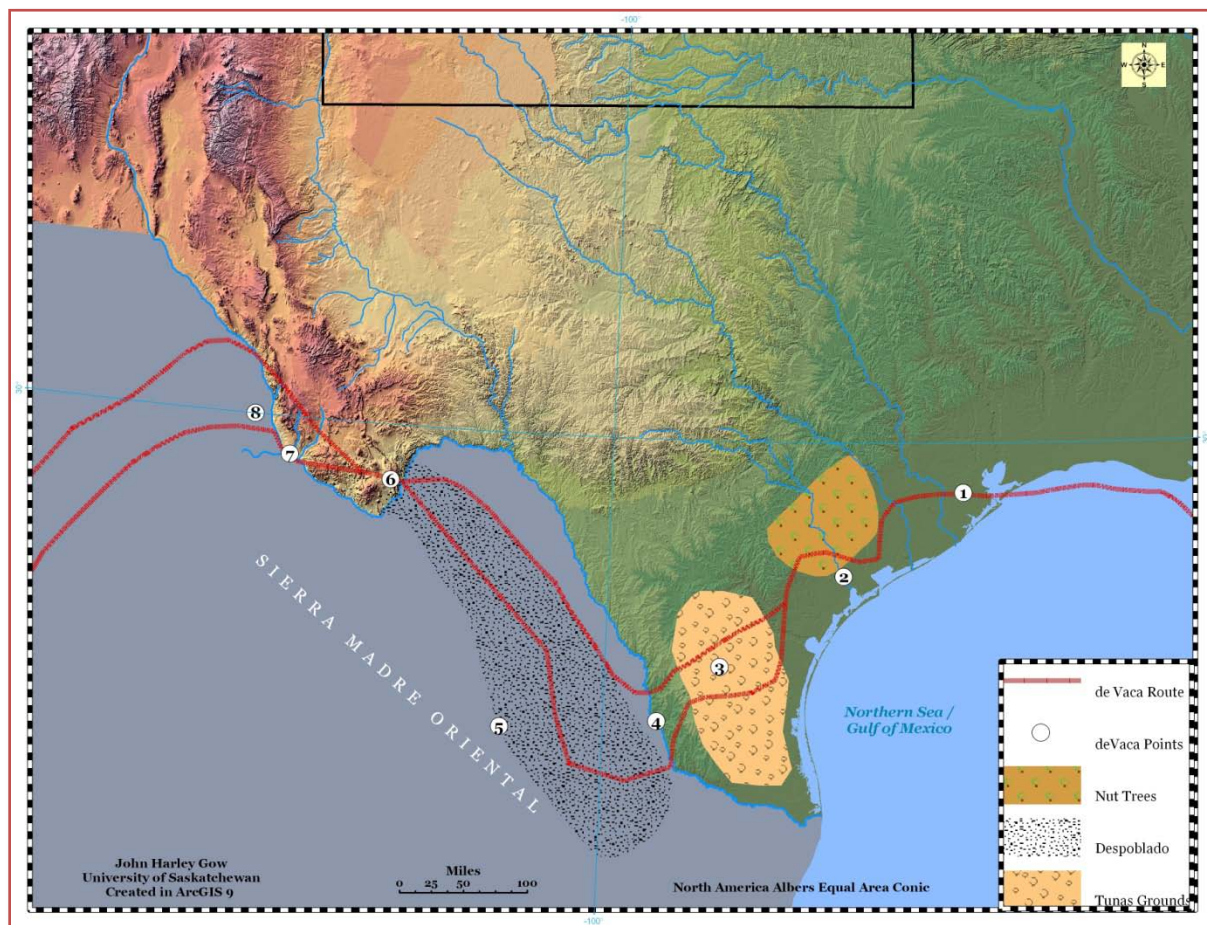


Figure 2.5. Plotting de Vaca.

Before striking out for the Rio Grande River in the summer of 1535, de Vaca spent the period from November, 1528 through the summer of 1535 on a narrow band of coastal plains and islands along the ‘Texas’ Gulf Coast (**Point 1**). He was separated from the other survivors during this time. The sameness of his daily routines means his record of that time touches only on events or impressions that were particularly interesting, or gruesome. De Vaca addressed this issue directly while discussing his first impressions of his Capoque and Han hosts; “[t]hey have

other strange customs, but I have told the most important and most notable ones so that I may go on and tell what else happened to us.”⁴⁰ Out of that record what is of interest to this project are any references that might shed some light on the plains to the north and any relevant environmental references.

Not surprisingly, de Vaca’s daily routines as a slave to the Capoque and Han involved securing food.⁴¹ In the spring he gathered bivalves and dug bulbs from under shore reeds until his fingers bled. By exerting himself he could amass surplus food and goods such as shells and pearls, which he was allowed to trade. Soon he had some freedom of movement and travelled “inland as far as I desired [and] along the coast for forty or fifty leagues.”⁴² In this manner he gained autonomy which increased his range of experiences and his chances of survival. Weather and food became the prime limiting factors in de Vaca’s movements. He “did not ply [his] trade in winter” when “even they [stayed] inside their huts and shelters [and] could neither support nor protect themselves.”⁴³ De Vaca was reunited with three Spanish survivors, likely in 1533, near the confluence of the *San Antonio* and *Guadalupe* Rivers (2).⁴⁴ These three, including Lope de Oviedo and the Negro slave Estevancio, had all been enslaved by the Aguanes⁴⁵, and lived inland from the Capoque and Han. This reunion was precipitated by the Aguanes coming to the confluence to “eat nuts,” likely pecans or black walnuts, and situating the reunion in October when both species’ nuts are picked.⁴⁶ This helps situate the argonauts on either the Colorado or the Brazos River valleys, upriver from the coastal plains, as per Carl Sauer and Hallenbeck.⁴⁷

⁴⁰ Adorno, v.1 (1999): 117 / 116. He had just discussed their nakedness, their communistic proclivities, and the impression that they had “no lord” among them (“No ay entre ellos señor.”), and that when friends met after an absence they cried for a half-hour then the host gave all his possessions to the guest.

⁴¹ Adorno simply and sensibly uses group names provided by Vaca, “many of which never appeared again in primary source accounts”, without attempting to connect to naming narratives, such as the *Jumano* debate. Vaca’s group names were those by which the Indian groups identified themselves. These names commonly were linked to a specific geographic, Capoque and Han were specific regions, and the people who ‘owned’ those regions took that name.

⁴² Adorno, (1999): 121. Sometimes interpreted as his having gone inland up to “forty or fifty leagues” (150 miles), an unsupportable notion.

⁴³ Adorno, (1999): 123.

⁴⁴ Adorno, (1999): 125, *n* 7.

⁴⁵ Adorno, (1999): 125 / 124, *n* 8. “Indios ... se llaman Deaguanes.” Elsewhere identified as Indians from Aguanes, hence D’Aguan. This is not the same Oviedo that de Vaca reported to in *Mexico*.

⁴⁶ This description and location was checked against several sources, including Krieger and websites related to the Texas pecan and walnut industry.

⁴⁷ Hallenbeck, and Sauer (1971): 113. These “well-drained alluvial valleys ... still had pecan trees in a great number when American farmers began settlement.”

Esquivel, another of the Spanish survivors, gives us the first description of the lands to the south and west. Hearing that de Vaca intended to travel that way to locate other possible Spanish survivors⁴⁸, Oviedo warned that the lands ahead (between Points 2 and 3):

were very poorly populated (“muy pobre de gente”), and that in it there was nothing to eat, and that the people died of cold because they had neither skins nor any other thing with which to cover themselves.⁴⁹

Esquivel put “nothing to eat” in context in telling de Vaca that he had survived by jerking and eating his Spanish companions as they had expired.⁵⁰ The group decided to stay together until the next year’s late summer *tunas* season when they would escape and travel west.⁵¹ Escape would then be easier, they supposed, because of the food supply and the fact that the Aguanes would then be travelling west for the harvest.

In the summer of 1533 the Spanish in company with the Aguanes travelled west to the *tunas* ‘fields’. They dealt with the “muy gran cantidad de moxquitos de tres maneras” by sleeping around fires made from wet wood. De Vaca reported that Indians from “inland areas ... burn[t] the fields and woods” to deal with the mosquitoes and also to drive lizards and other edible animals from cover. Fire setting was also used to hunt deer, which were “ordinarily found where there is no water or wood.”⁵² These inland Indians, he noted, often had to carry firewood and water with them when they went to hunt deer, which they did “two or three times a year at as great a cost as I have said.” This observation is problematical, for a number of reasons. Why would the Aguanes carry firewood to set fire to “woods”? Secondly, deer do not thrive where there is no wood-cover or water, they favor parkland or edge biomes. De Vaca notes the relationship between aboriginal fire-setting and deer hunting, but it would seem he has the cause and effect backwards. Surely one of the reasons for burning was to renew browse for deer, not eliminate it, as fire “promotes and purges” in the words of Stephen Pyne.⁵³ However, perhaps the mosquitoes were so bad that the Aguanes and others burnt off the groundcover to eliminate

⁴⁸ When the Spanish fled ‘Florida’ they did so on log rafts. The rafts were separated by tides and storms and various small groups were either lost at sea or deposited on beaches around the Gulf.

⁴⁹ Adorno, (1999): 125 / (124).

⁵⁰ Adorno, (1999): 135 / (134). “And the flesh of those who died was jerked by the others.” (“Y los que morian los otros los hazian tasajos.”)

⁵¹ Tunas are prickly pear fruit in the Taino language.

⁵² Adorno, (1999): 143-5 / (142-4).

⁵³ Stephen J. Pyne, *Fire: A Brief History*, (Seattle: University of Washington Press, 2001): 15.

them at the cost of also driving deer populations away. The best guess here is that de Vaca was combining burn practices from two bioregions, folding brush and grasslands burns into one category.

Why did de Vaca follow the route he did, away from the setting sun to the north? He did so to follow reports of towns and agriculture; in doing so he followed established aboriginal trade routes. Then, as in the 1730s-1740s, agriculture was the pivot point for Study Area aboriginal groups and the argonauts that strayed or sallied among them. The sources make clear that all argonauts, whether they sought gold, slaves, pearls, or horses, were drawn to agricardos to find them. Relayed reports of the Jumano agriculture and the advanced culture that arose from it were a magnet for de Vaca, as it would be for future argonauts. The Jumano agricardo was an important pivot for the Southern Plains aboriginal economy.⁵⁴

While the Jumano agricardo was the only example of an agricultural complex noted by de Vaca it is possible to see another example of agricultural practice in the text. Regarding the obvious regional importance of the *tunas* fields it is reasonable to believe this resource was enhanced by human efforts. As Carl Sauer wrote in regard to this specific site, “the extraordinary massing of cactus useful to man suggests that man had been concerned in its increase.”⁵⁵ *Tunas* likely was a tradable commodity in some form; it was certainly a vital one.

It is in this textual and geographical context, de Vaca first mentions bison:

Cows (“vacas”) sometimes range as far as here, and three times I have seen and eaten of them. [...] These cows come from the north forward through the land to the coast of Florida and they extend over the land for more than four hundred leagues. And along this entire route throughout the valleys through which they come, the people who inhabit them come down and sustain themselves on them, and they supply the land with a great quantity of hides.⁵⁶

As editor Adorno here notes, de Vaca’s description seems to be a compendium of his bison experiences for the whole trip.⁵⁷ De Vaca tended to discuss a subject in reflective mode and it is difficult to pin down where and when he encountered phenomena, bison observations

⁵⁴ Presumably there were other functional Caddoan agricardos along the Mississippi valley, but de Vaca was drawn eastward by the hopes of finding other Spaniards. This dissertation will demonstrate in later chapters the existence of another on the Red River.

⁵⁵ .Carl Ortwin Sauer, *Sixteenth Century North America: The Land and the People as Seen by Europeans*, (Berkeley: University of California Press, 1971): 116.

⁵⁶ Adorno, (1999): 147 / (146).

⁵⁷ Adorno, (1999): 147, n 1 and 3.

being a case in point. While he observed that bison ranged for “más de quatroçientas leguas”, or a thousand kilometers along the Gulf, situating them from the Rio Grande eastward past the Espíritu Santo, or Mississippi River,⁵⁸ he provides no evidence here to suggest that bison ranged to the coast circa 1530. De Vaca reflected that only “three times” in his years of travels had he “seen and eaten of them.”⁵⁹ It is approaching the heretical to say so, but from the descriptions he provides it is hard to say if he ever saw a living bison. Authors such as Colin Calloway are committed to the idea that de Vaca saw “huge herds of buffalo.”⁶⁰ John Miller Morris wrote that as “a captive [deVaca] once watched his masters set fire to the plains to drive bison back onto the ranges they preferred”⁶¹, in misinterpreting the fire discussion above. Morris made other claims about de Vaca and bison intimating that the Spaniard saw the great herds:

They saw no gold, but there was great wealth indeed in this huge 400-league nation of cows: a superabundance of the finest animal protein in the New World[.] These new *vacas* or cows vastly outnumbered cattle on Spanish ranges. Cabeza de Vaca often heard native reports on buffalo, especially from the Jumano bands who made regular forays into the Southern High Plains for bison meat.⁶²

There is no evidence in deVaca to suggest that there was a superabundance of anything barring mosquitoes, but much less bison protein, available to any of the indigenes at this particular time and place.⁶³ Morris does however support the claim of this paper that bison were available only above the *Texas* low plains.

Another piece of de Vacian evidence relates to bison and the Study Area. De Vaca presented in 1537 gifts to Charles V, including turquoise, and a bison robe. He reported no great wealth, but the robe apparently caught the attention of Vázquez de Coronado.⁶⁴ We have no idea of the provenance of this robe, but it is very safe to say that de Vaca certainly could have used

⁵⁸ Adorno, (1999): 147 / (146). Some have interpreted this measurement to mean that the expedition saw bison in Florida; they did not. Possessing both guns and horses then they certainly would have availed themselves of the desperately needed protein. In reality the Spaniards were reduced to first eating their horses, then each other.

⁵⁹ Adorno, (1999): 147/(146).

⁶⁰ Calloway (2003): 123.

⁶¹ John Miller Morris, *El Llano Estacado: Exploration and Imagination on the High Plains of Texas and New Mexico, 1536-1860*, (Austin: Texas State Historical Association, 2003[1997]): 13.

⁶² Morris, (2003[1997]), 14.

⁶³ As Andrés Reséndez wrote from de Vaca: the Coastal groups “ate spiders, ant eggs, worms, salamanders, lizards, and snakes and even resorted to eating earth, wood, deer excrement, and ‘other things’” that de Vaca refrained ‘from mentioning’.” Reséndez (2007): 161

⁶⁴ Morris, (2003[1997]), 10.

one as he huddled and shivered his way naked along coastal *Texas*. Again the best guess is that he acquired it during his transactions with the People of the Cows on the Rio Grande. Certainly he saw robes and heads, but if they were they attached to living animals it is hard to say. Here is his description of the animal:

it seems to me that they are about the size of those [cows] in Spain. They have small horns like Moorish cows, and their fur is very long. Some are brown and others black, and in my opinion they have better meat and more of it than those from [Castile].⁶⁵

While de Vaca reports nut and bug gathering and deer hunting techniques in depth, he provides not one iota of such description for bison hunting. Given the austere food regime he labored under, this is a remarkable lacunae.

Most likely de Vaca first encountered bison meat here, at the *tunas* grounds. He did not mention bison meat until this point in the *Relación*, nor was there any suggestion to this point of bison meat or robes being used by the coast Indians. Considering the attention paid to foodstuffs in the journal, it is inconceivable de Vaca would have had bison meat and not mentioned it. Frequently de Vaca noted how scarce deerskins were along the Gulf Coast, and it was “deerskins” and not “hides” or “robes” that were used for clothing or covering.⁶⁶ It is in the *tunas* grounds just before reaching the Rio Grande that “hides” are first mentioned in the context of “the land was [already] very cold and in it there were very few hides.”⁶⁷ An environmental marker is that de Vaca also reported using “long grass” for making shelters here, another strike against the Stephens route, and evidence for the coastal ‘Mexican’ route.

Figure 2.6 was generated from the bison data in de Vaca’s *Relacion*. This map also shows the relevant modern physiographic provinces of *Texas* digitized from *Historical Atlas of Texas* by the author.⁶⁸ This resource was of great assistance in plotting this route, as physiographic elements such as the *Post Oak Belt* show great constancy over historical time. For instance de Vaca never mentioned anything like forests in his *Texas* trek, presumably because he did not venture far enough north to encounter them. The ‘South Texas Brushy Plain’ and ‘Desert

⁶⁵ Adorno, (1999): 146-147.

⁶⁶ Adorno, (1999). Deer skins are “cueros de venados”: 54-55, 169-171. Bison hides are “cueros”: 145-147; bison robes are “mantas de cueros”: 222-223; “mantas de Vacas”, 228-229; “mantas de Vacay”, 248-249.

⁶⁷ Adorno, (1999): 155.

⁶⁸ A. Ray Stephens, and William M. Holmes, ed. *Historical Atlas of Texas*. Norman: University of Oklahoma Press, 1989.

Vegetation' zones were as unappealing to bison in 1540 as they were demonstrably unappealing to the species in documented historical times. Similarly, the 'Edwards Plateau' was historically a site of large bison herds. These considerations informed the **Bison** polyline; the great bison herds then roamed to the north of this line.

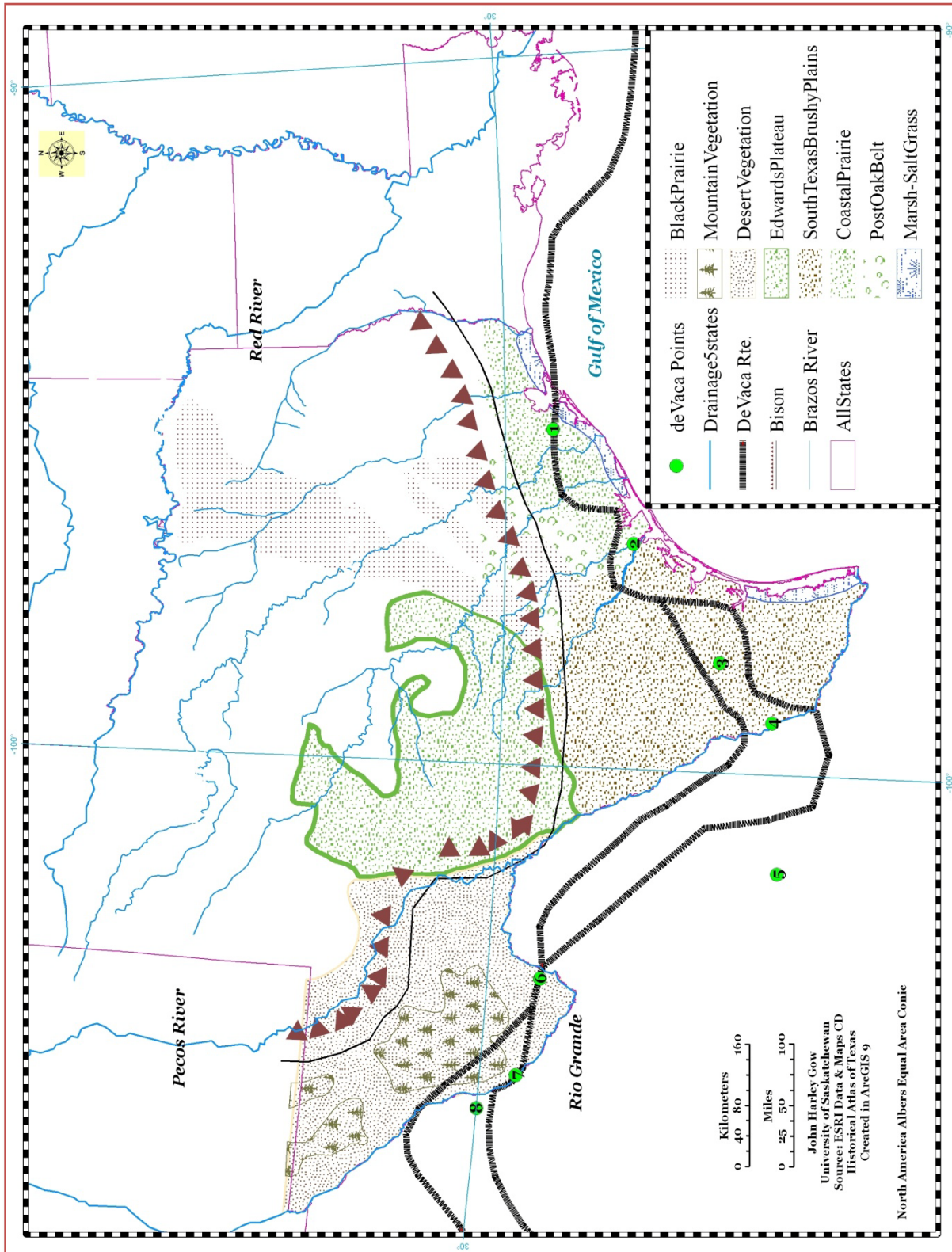


Figure 2.6. Bison Physiography.

Another consideration is the human factor in influencing bison locations. The historical record is unanimous in reporting that no “wild bison other than occasional individuals occurred west of the Pecos River valley.”⁶⁹ This is not entirely true in terms of geographical scope: bison did range on the upper Pecos to the 1700s. Below the *Llano*, however, no argonauts reported bison. Since it is well documented that bison did pre-historically and do in modern times exist in “an essentially wild state” west of the Pecos, factors other than availability of optimal grazing likely kept bison away.⁷⁰ Vagaries in precipitation were one obvious factor, but the presence of large aboriginal populations was also a control on bison movements. The aboriginal agricardo, supporting large populations over time in relatively static locations, resulted in the localized extirpation of bison. Hunting was the direct impact on bison numbers, and much work has been done demonstrating the impact of hunting on large ungulates.⁷¹ Since the agricardo occupied the best agricultural lands, likely these were also the best grazing lands. The presence of agricultural and trading groups of hundreds to thousands of individuals exerted powerful pressures on local environmental resources. These impacts would be multiplied exponentially when these groups adopted domesticated euramerican animals such as the sheep and horse.

De Vaca finally escaped on the new moon, September 1534, and began his trek away from the Gulf.⁷² From his own experiences de Vaca was careful about moving away from areas where he had established the means to survive. Part of this was due to his knowledge that other Spaniards had been killed for slight provocation, in one case an Indian’s bad dream resulted in the death of his Spanish slaves. Surely however the austerity of the aboriginal lifeways among the Gulf Coast aboriginals was his overriding concern. Since leaving the Florida coast near *Tampa*, he had seen no evidence of anything approaching a surplus of food, or any other commodity. The coastal Indian groups literally lived from hand to mouth, totally dependent upon seasonal foodstuffs. When the Aguanes travelled to the *tunas* grounds, de Vaca went “five

⁶⁹ Joe Truett. "Bison and Elk in the American Southwest: In Search of the Pristine," 195-206. *Environmental Management* 20: 2 (1996): 195.

⁷⁰ Truett (1996): 200.

⁷¹ Erhard Rostlund. “The Geographic Range of the Historic Bison in the Southeast,” 395-407, *Annals of the Association of American Geographers* 50: 4 (1960).

⁷² “Escaped” is an inadequate term. De Vaca acquired enough notoriety through his healing that he became more valuable as a tradable commodity than he possessed as an adjunct to a group such as the Aguanes. Did he leave of his own volition, or was he traded? Small market baseball or hockey towns are familiar with the bitter reality of free agency.

days with very great hunger because there were no prickly pears nor any other fruit along the route[.]”⁷³ People went naked in part because of moderate temperatures, but largely, as de Vaca’s sufferings show, because they had limited direct access to hides and no access to fibers. These people had no permanent abodes and therefore no place to store foodstuffs or goods; neither did they have any means of transporting goods, lacking both domestic animals and containers.

De Vaca would then spend a full year, from one *tunas* season to the next, living with the Avavares in “the Region of the Prickly Pears.” Here there were

many beautiful and very beautiful grazing lands and good pastures for cattle, and it seems to me that it would be very productive land if it were worked and inhabited by men of reason. We saw no mountains in any part of it[.]⁷⁴

From the text it is clear that de Vaca thought the area could potentially support cattle, not that he saw cattle, or bison, grazing there. This is likely where de Vaca first encountered the mesquite as well, according to editor Adorno.⁷⁵ De Vaca was now, in late summer of 1535, on the eastern banks of the Rio Grande.

Upon reaching the Rio Grande, de Vaca noticed cultural differences which caused him to sum up a coastal cultural group of which the westernmost group, the Cuchendados were “the last ones.”⁷⁶ De Vaca hoped that by heading away from the coast and towards the mountains he would encounter more advanced agricultural people, as:

[a]ll the people of the coast are very bad (“muy mala”), and we considered it preferable to go through the land because the people farther inland are of a better disposition and they treated us better, and we considered it certain we would find the land more populated and with better means of sustenance.⁷⁷

One observed positive difference had to do with trade or commerce. De Vaca and Estevancio had acquired a reputation as healers, and knowledge of this had spread out to

⁷³ Adorno, (1999): 157.

⁷⁴ Adorno, (1999): 151. De Vaca’s “gente de razon / men of reason” were likely the pastoralists of Spain who followed their own seasonal round or transhumance as portrayed by Fernand Braudel in *The Mediterranean: and the Mediterranean World in the Age of Phillip II* (1949). De Vaca’s conjunction of “grazing lands and good pasture” and “no mountains in any part of it” reference his own experience whereby herders grazed animals in mountain pastures in summer, returning to the lowlands as cooler weather returned. Thanks to fellow Braudel admirer Geoff Cunfer for this point.

⁷⁵ Adorno, (1999): 157, n 2. De Vaca mentions finding tree fruit “which is like a vetch.”

⁷⁶ Adorno, (1999): 187.

⁷⁷ Adorno, (1999): 151 / (152).

neighboring groups at all of their successive layovers. As de Vaca had insisted on moving west, the coastal Indians had to this point passed the healers on to the next group with obvious regret, but without demanding gifts in exchange. One of the cultural advances de Vaca noted was that the groups after the Cuchendados demanded gifts, indeed seemingly all the possessions of the next group in exchange for receiving the healers.⁷⁸ From the journal descriptions it seems obvious that one of the reasons “[t]hose who had accompanied us sacked the houses”⁷⁹ was that there were now houses and goods to be sacked. That the sackers were always heavily outnumbered by the sackees, yet were allowed to carry off their booty unchallenged indicates the exchange concept was well developed, if barbarous-appearing to de Vaca; “the ones always sacked the others, and thus those who lost, like those who gained, were very content.”⁸⁰ Further to this are de Vaca’s first reports of seeing goods he recognized as goods, such as “un caxcavel gordo grande de cobre”, or large copper bell, in one household.⁸¹ This bell is clearly linked to people of the north.

The editors now place de Vaca to the west of the Rio Grande and in or along the *Sierra Madre Mountains*, heading north. One aspect of the journal from this point on is that de Vaca began covering ground at a feverish pace relative to his earlier progress. No longer did he wait for seasonal foods to ripen or for the right moment to steal away. De Vaca was now a renowned healer, and progressed much more at his own pace and in pursuit of his own agenda. One of the unfortunate aspects to this change in pace was that his cultural understandings and resulting descriptions of aboriginal groups become thinner just as he began to encounter more culturally complex groups. His northwesterly route seems strange in that it is not the most direct route to sure contact to other Spaniards. However, de Vaca was both repelled by the violence of the coastal groups and drawn onwards by his reception with the intermountain/plains Indians he began encountering west of the Rio Grande. In the intermountain valleys, de Vaca encountered so many different cultural and language groups “memory is insufficient to be able to recount them[.]”⁸² These people were hunters and the Spaniards were now able to eat meat on a daily

⁷⁸ Adorno, (1999): 205. De Vaca’s heading for this section: “Of how they robbed one another.”

⁷⁹ Adorno, (1999): 205 / (204). “[N]os avían acompañado saquearon las casas[.]”

⁸⁰ Adorno, (1999): 211.

⁸¹ Adorno, (1999): (206) / 207. De Vaca understood that the bell was of Indian manufacture from the north, another reason for him to bend his path northwards.

⁸² Adorno, (1999): 211.

basis. Game consisted of rabbits, which were hunted in drives and killed with clubs, and deer which were bow-hunted. Further, these Indians took no umbrage at the euramericans' insistence upon roasting the meat rather than eating it raw as had the coastal peoples. These groups were also much more obviously organized than the coastal groups, and their numbers were far larger as well. Whereas de Vaca might have been accompanied by a few, or a few dozen people during his progress along the coast, now "many times ... three or four thousand people" travelled with him from one territory to the next.⁸³

De Vaca now travelled along rivers flowing from the north, and encountered for the first time, "some plains ("llanos") of thirty leagues" that were very populous.⁸⁴ In the summer of 1535 de Vaca and his escorts headed north in order to connect with the next group and in doing so would encounter the first territory that he would describe in anything approaching desert-like terms. South of the *Big Bend of the Rio Grande*

[t]hese Indians guided us through more than fifty leagues of deserted land in very rugged sierras. And because they were so dry there was no game in them, and because of this we suffered much hunger, and at the end [we crossed] a very great river in which the water came up to our chests.⁸⁵

After crossing deserted coastal plains with scanty vegetation or tangled scrub, de Vaca here first uses terms of description that might be construed as indicating either a cultural or a literal environmental desert. "[M]as de çinquenta leguas de despoblado de muy ásperas sierras" is how this description reads in Spanish.⁸⁶ The Spanish language had a perfectly serviceable word for 'desert', if that is what de Vaca meant to say as *desierto* means desert in Spanish. De Vaca's term *despoblado*, on the other hand, stems from the verb *despoblandar*, to depopulate. While the term literally means 'depopulated', it is also taken to mean a wilderness or deserted place, perhaps more of a cultural desert than an environmental one. Dan Flores has written that the term had a cultural as opposed to environmental meaning, "based upon a deeply held belief in a great, unpopulated wilderness in North America, what the Spanish explorers called los despoblados grandes[.]"⁸⁷

⁸³ Adorno, (1999): 211 / (210). "[T]res o quatro mil personas."

⁸⁴ Adorno, (1999): 213 / (212).

⁸⁵ Adorno, (1999): 215.

⁸⁶ Adorno, (1999): 214.

⁸⁷ Dan Louie Flores. "The Great Plains 'Wilderness' as a human-shaped environment," 343-356. *Great Plains Research* (9: 2, 1999): 344.

Without trying to pick nits, de Vaca crossed this “deserted land in very high sierras” during high summer, and if he had meant to say he was crossing a literal desert, he likely would have used that term. Editor Adorno speculates that de Vaca was crossing the “uninhabited desert mountains of the Sierra Madre Oriental,” a modern descriptive of this area (Figure 2.7).



Figure 2.7. The *Despoblado* today. Photograph, joseyuk, “Cerro La Gloria Castanos Coahuila,” Google Earth (September 15, 2008): Coordinates 26°47’20”N x 101°25’40”W.

It is largely the context of his aboriginal companions’ reactions to his plans to move north that accounts for his language choice. De Vaca was advised that both to the east and to the north “the people were far away,” and they expressed great fear when de Vaca insisted upon travelling north anyways.⁸⁸ Upon crossing the Rio Grande and leaving the *despoblado* behind, de Vaca’s guides grew afraid. Here they met other people from “some plains at the end of the sierras” and wished to go no further because “their enemies” lay ahead.⁸⁹ Two woman emissaries who went ahead upon de Vaca’s insistence returned to say that most of the people had “gone to the cows, since it was that season.”⁹⁰ De Vaca pressed ahead with his escort, and met an advance party from the next group, “and because these people and those who came with us were enemies and

⁸⁸ Adorno, (1999): 213-221.

⁸⁹ Adorno, (1999): 215-217.

⁹⁰ Adorno, (1999): 221.

did not get along, we took leave of the first ones, giving them what [the new group] had given us.”⁹¹ The cultural gulf between these two groups was wider than any de Vaca had yet encountered. At every stop to this point, groups had managed to deal with each other without overt violence or fear of violence. De Vaca and his companions had gone into that *despoblado* with the Indians being very aware that they were crossing not just an environmentally inhospitable zone, but a cultural no-man’s-land as well.

But, did de Vaca encounter an environmental desert?⁹² The searchable online text assures that de Vaca never used the word “desert (*desierto*)” in describing his travels. Further, the only time he described sandy conditions was on landing near *Galveston*, and this would certainly square with our modern and historical knowledge of the Texas Gulf Coast. Once ashore, de Vaca did not again refer to sand or sand dunes, presumably as they were a normal part of his daily existence along the shore. Journalists talk about the unusual when it is unusual, and stop mentioning something, say sand dunes or tallgrass prairie, even cannibalism, when it becomes normal. Argonaut journalists tended to make comparisons at later dates when they spotted similar conditions, or made contrasts between the already observed and the newly encountered. Thus, if de Vaca landed in sand dunes and lived in sand dunes he would mention them only when they were new or somehow otherwise provided an exceptional experience. If he had walked across another environmental desert further on his travels, he would have mentioned it.

The length of time de Vaca spent traveling from the *tunas* grounds to the second crossing of the Rio Grande (4 to 6) allows for testing hypotheses within the HGIS environment.⁹³ Adorno and Krieger provide very different interpretations of how long it took de Vaca to make this part

⁹¹ Adorno, (1999): 223.

⁹² A note here on methodological practice; for the purposes of plotting and comprehending de Vaca’s day-to-day existence and for obtaining an historical feel for the source, it was the book version of the narrative that were consulted. Further to this the on-line text was consulted for searches of specific words or phrases. This e-book is an invaluable source, if not for the primary work then for checking specifics. One example is, having searched the text for mentions of the term desert and not found any, was it possible to have overlooked iterations of this term? Rolena Adorno, and Patrick Charles Putz. “Álvar Núñez Cabeza De Vaca: His Account, His Life, and the Expedition of Pánfilo De Narváez.” University of Michigan, Scholarly Publishing Office, 2005. <http://www.quod.lib.umich.edu.cyber>. Accessed November 10, 2008.

⁹³ The Adorno notes and map show the journey lasting less than a year, “summer 1535” to arriving “May 1536” at Culiacán. Adorno, Vol. 1 (1999): xxvi, and text. Krieger has the journey lasting twenty months, October 1534 to the known May 1536 contact date. Krieger (2002): 44.

of the journey, but it need not be that complicated.⁹⁴ Breaking the total journey into temporal components, we know that de Vaca left the second *tunas* grounds in the summer; both editors are in accordance. This squares with what we know of the *tunas* season as well,⁹⁵ and Krieger found that “June 20 is the earliest date on which *tunas* ripen anywhere in Texas.”⁹⁶ We have de Vaca’s word that he crossed the big river, the Rio Grande, shortly after leaving (4). We then know that de Vaca crossed the river again, heading north, and that he arrived at the territory of the “people of the cows” when they were away hunting. Adorno has de Vaca at Point 8 in “[I]ate summer or early autumn 1535”, which fits with the aboriginal seasonal round regarding bison hunting. This suggests that de Vaca covered that ground in three months, or at most one hundred days, and provides a timeframe and starting and finishing points for this leg of the trek.

By digitizing the Krieger route and then testing it with the “measure” tool in the ArcMap desktop, we find that it covers some 500 mi/800km, again from Point 4 to Point 6. Adorno has de Vaca going deep into ‘Mexico’ before turning north and the “measure” tool reveals that following the southernmost edge of the proposed route would have de Vaca covering up a maximum of 750mi / 1200km. Krieger makes the point that a healthy de Vaca could optimally travel “4 leagues or 12 miles” in a day.⁹⁷ This seems a reasonable guess given that later and horse-borne argonauts tended to average twenty miles per diem, taking regular rest days.⁹⁸ According to Krieger’s route, some 40 travel days would have taken de Vaca from the *tunas* grounds to the people of the cows. Adorno’s route taken at its southernmost limits covers 750mi/1200km miles and would take sixty plus travel days to cover. We know of de Vaca’s frustrations with this leg of the trip, of his repeated stops to heal and negotiate, a long delay caused by illness and regular disruptions of his travel plans. The idea of de Vaca and his hundreds of camp-mates averaging 5mi / 8km a day for a hundred days seems remarkable; 7.5mi/12km a day impossible. Given what we know of his previous experiences and reports,

⁹⁴ To further complicate issues, Krieger died before completing his project, and both his wife’s and editor Thomas R. Hester’s voice intrude on this argument.

⁹⁵ Prickly pear is a vast and catholic topic, but the general consensus is that no matter where they are found, from Williams Lake, British Columbia into South America, they bloom in the spring and fruit during the summer. See, “Prickly Pear”, http://en.wikipedia.org/wiki/Opuntia_engelmannii, also, Edward F. Anderson, *The Cactus Family* (Portland, OR: Timber Press, 2001).

⁹⁶ Krieger (2003): Hester, at n 13, 51.

⁹⁷ Krieger (2003): 44. “Leagues” is a particularly problematical unit of measurement, and this paper will assume Krieger’s argument for a three-mile league.

⁹⁸ Both the Long and the Pike Expeditions tended to average about twenty miles per day.

500mi/800km miles probably represented a year's worth of seasonal round travel or more for the coastal people.

Some understanding of the *tunas*, or prickly pear, helps to make sense of this route argument. Krieger noted that the potential range of various types of prickly pear covers "half the State of Texas."⁹⁹ Readers likely associate this cactus with desert-like conditions, but the plant thrives "best alongside luxuriant grasses and wildflowers" in "open country." Since the plant prefers neither the coastal plains nor the hardwood groves along the central rivers, and following de Vaca's travel description, the likeliest location for the grounds is along Krieger's inland route, as opposed to Adorno's coastal route. This also squares with de Vaca's mention of llanos or plains in proximity to the *tunas*. Perhaps the solution to the route would be a hybrid one, employing Adorno's graphic approach of a band of possible routes, combined with Krieger's recognition that de Vaca likely could not have plunged very far into Mexico before making his turn northwards.

Adorno's depiction of the route descending into 'Mexico' seems unlikely to impossible. Even Krieger's depiction of de Vaca's journey seems to dip too far south. Why would de Vaca loop hundreds of kilometers through "despoblado" when he knew that food and possible wealth lay to the north (People of the Cows) and that rescue lay to the west? Both published routes add too much distance to the route to seem likely. This paper then argues for a middle way from which to address issues such as the extent of the bison range and climate. The polygon "Gow" is then a composite of Adorno's mapping approach and Krieger's route.

Many likely have a fixed idea that the Gulf Coast of Texas has a year-round warm to hot climate. Yet, every piece of evidence de Vaca provided regarding winter weather in *Texas* indicates a much cooler and drier region than we know today. At no point did de Vaca ever comment on hot weather, but he frequently complained of huddling in pits and holes to survive the cold. In November 1528¹⁰⁰ Figueroa told de Vaca that his group of four had walked inland from Malhado and two of his companions had died from "cold and hunger ... during the harshest weather ever seen in the world[.]"¹⁰¹ Oviedo's Joint Report summed up the regions climate thusly:

⁹⁹ Krieger (2002): 39.

¹⁰⁰ Adorno, vol. 1 (1999): 131, *n* 6.

¹⁰¹ Adorno, vol. 1 (1999): 130, 131. "[T]odos tres de frio [...] en el más rezio tiempo del mundo[.]"

The country is very healthy and temperate, except when there is a norther in winter, at which time even the fish are frozen in the water.¹⁰²

De Vaca continually complained about the cold. Considering he travelled along the Gulf Coast of La Florida, then *Texas* for several years and never once mentioned oppressive heat is interesting and points to, as Krieger argued, considerably cooler weather in the 1530s than we have known since 1800 and the expanding euramerican occupation of these lands.¹⁰³ Krieger opined that de Vaca's reportage of cold weather made many mapmakers move his route further north to account for the temperature; this in spite of de Vaca's' constant references to traveling along the coast, and his complaining of cold summer temperatures even in Florida. Oviedo's account reveals that Andrés Dorantes reported "that he saw it snow and hail all in one day" on landing on the 'Texas' coast in 1529.¹⁰⁴ When one takes this account of Gulf weather into account, de Vaca's many descriptions of fur-wearing Indians in Florida and along the Gulf Coast to Malhado make more sense.¹⁰⁵

Apart from the constant references to cold weather and the one reference to snow and sleet, there is a remarkable absence of discussion about rainfall or wet weather in the sources. Only a time or two when the Spaniards were still on the rafts did de Vaca mention rain, or precipitation of any kind. He mentioned wet wood once, but did so in the grassland *tunas* grounds in relation to the mosquito problem, so it is impossible to know what he mean by wet wood. Otherwise, de Vaca mentioned problems with a flooding river, but that was on the *Mexican* west coast.¹⁰⁶ Heavy rains were a source of misery for many argonauts who rarely missed a chance to complain about them.

De Vaca generally referred to indigenous groups by their endonyms, or self-given names often synonymous with that group's language; "and these are called Cuthalchuches and Malicones, which are other languages."¹⁰⁷ Occasionally, he referred to these groups by their primary occupation, or their primary residential location, as "people of the cows." De Vaca then

¹⁰² Sauer (1971): 112.

¹⁰³ Krieger (2002): 46.

¹⁰⁴ Adorno, vol. 3 (1999): 25.

¹⁰⁵ De Vaca reported sable furs as cloaks and trade items from the Gulf coast of Florida all the way to Malhado, where references cease. Adorno, vol. 1 (1999): 80-81, "un manta de martas zebelinas"; *marta cibelina* being zoological Spanish for sable. Also, 84-85. 118-119. Both the sable and the marten are associated with cooler climes and coniferous forests.

¹⁰⁶ Adorno, vol. 1 (1999): 237.

¹⁰⁷ Adorno, vol. 1 (1999): 160 / 161; "se llamen," or, 'are called.'

apparently never took it upon himself to name these groups, in stark contrast to later argonauts, the Conquistadors, who named groups at will. This is in keeping with the singular nature of de Vaca's world view, and also with his relative agency. Since he was not conquering these groups militarily, he also deigned to conquer them nominally. This is unfortunate from this an HGIS standpoint. For an anachronistic example, later Spaniards would call the western-northern Comanche the Yamparica, meaning "those Comanches who eat the yampa root, and therefore live where the yampa grows."¹⁰⁸ It is possible that the Yamparica self-identified by that name which indicated a life-style, a geographic location, and a direct (perhaps the most direct?) link to the common Comanche past in the intermountain. As Cibecue Apache Charles Henry told Keith Basso, "their names for themselves are really the names of their places. That is how they were known, to others and to themselves."¹⁰⁹

Neither, and unfortunately, did de Vaca name sites, apart from Malhado Island.¹¹⁰ This is in stark contrast to nearly every other Conquistador, and the argonauts generally, who took possession of every feature and site encountered. Some, such as Chamuscado, bestowed a different name upon the same river every few days or so of travelling on it. Whether this was out of enthusiasm or insecurity is unknown, but it was not a tendency of de Vaca's.¹¹¹

Cabeza de Vaca's very survival was predicated upon his recognition and acceptance of, and willing participation in pre-Columbian exchange practices conducted by all of the aboriginal groups he encountered. For instance, he earned his keep by trading foodstuffs for the necessities of life the various aboriginal groups could provide. De Vaca then throws considerable light upon the exchange economy that then prevailed. Certainly there was much sign of indigenous trade; Indians near Malhado traded for bows likely of bois d' arc wood, suggesting links to the Cross

¹⁰⁸ Yampa, *Perideridia gairdneri*; a perennial plant of meadows and hillsides. Yampa provides sweet starchy roots used as a staple food by Shoshone and other intermountain or foothills groups. It can be dried and ground to flour, and also has medicinal uses. Using this plant likely linked the Yamparica to their previous home in the mountains north of the Arkansas. Of course, as T.R. Fehrenbach noted, while this group ate yampa, they "lived by hunting buffalo." T. R. Fehrenbach, *Comanches: The History of a People*, (New York: Anchor Books, 2003[1974]): 144.

¹⁰⁹ Keith H. Basso. *Wisdom Sits in Places: Landscape and Language among the Western Apache*. (Albuquerque: University of New Mexico Press, 1996): 21.

¹¹⁰ This writer thinks the signifier "Malicones" might be de Vaca's *nom de guerre* for the natives of Malhado, contrary to his earlier disclaimer.

¹¹¹ This was in large part due to the Spanish observance of Saints' name days.

Timbers and eastern ‘Texas’. These Indians also used long flints obtained by trade, probably from *Alibates* quarry.¹¹²

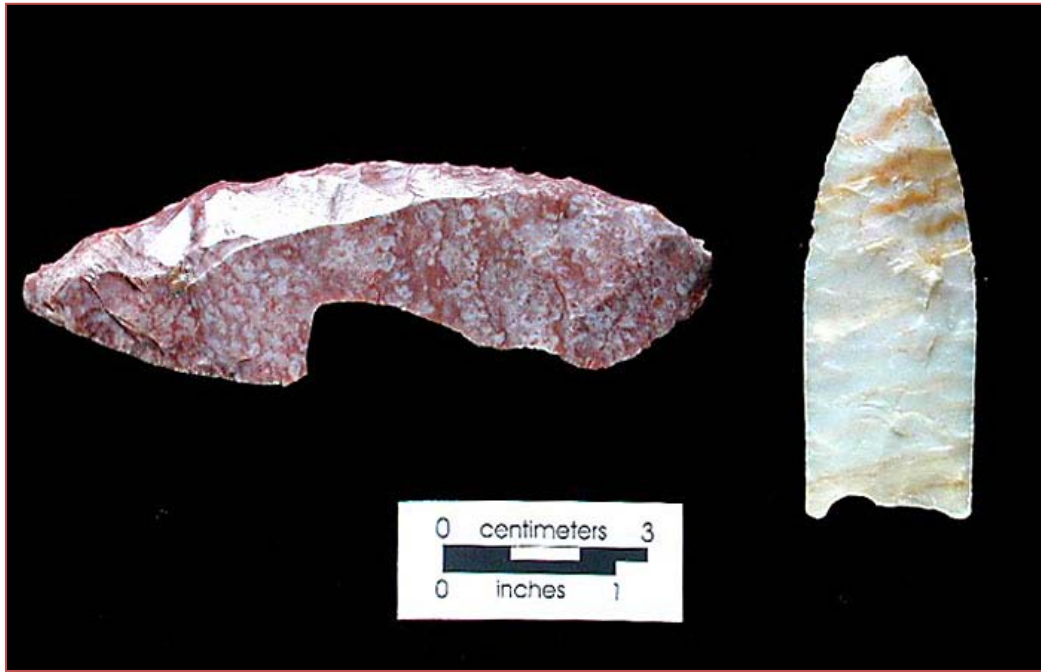


Figure 2.8. Alibates flints.¹¹³

Regarding items of interest for Europeans, de Vaca found no gold or silver, but engaged in trade with what were likely pearls and semi precious stones like *margajita* and turquoise.¹¹⁴ The famous sable skins and robes of ‘Florida’ and Malhado, may have attracted attention from de Vaca’s or Oviedo’s readers, and the copper bell obtained from the People of the Cows at the *tunas* grounds and “cotton” clothing from the same source likely caused some interest in Spain. These, along with the mentions of the *vacas* and the good grazing grounds along the Rio Grande, and the presence of maize agriculture were really the only reports of any sort of potential wealth

¹¹² Adorno, vol. 1 (1999): 165. “And they gave us flints as long as a span and a half, which they use for cutting, and it is an item of very great esteem among them.” Flints could also have been obtained from eastern Texas, but the bison trade likely made the Alibates and Quitaque TX sites the more logical choice. Evidence suggests Alibates has been mined for flints for at least ten millennia. James B. Shaeffer. “The Alibates Flint Quarry, Texas,” 189-191. *American Antiquity* 24: 2 (1958): 190.

¹¹³ “A large mottled-red cutting blade (left) and dart point of white Alibates were among artifacts found at the Plainview site.” Photo by Milton Bell. Susan Dial. “Alibates Flint Quarries and Ruins.” The University of Texas at Austin. *Texas Beyond History Online*. <http://www.texasbeyondhistory.net/alibates/images/alibates-paleo2.html>. Accessed 10 November 2010. “Projectile points and other tools made of Alibates stone have been found in sites as far north as Montana, as far south as Central Mexico, and east to at least the Mississippi River.”

¹¹⁴ Adorno, vol. 1 (1999): For turquoise, 230, 231. For *margajita*, a pyrite crystal, 207, and *n* 7, 207.

de Vaca reported. It occurs that his willingness to return might have led others to believe he had understated the potential of the region deliberately, and both Coronado and De Soto can be shown to have been familiar with de Vaca's and/or Oviedo's reports.¹¹⁵ De Vaca had actively pursued the *adelantamiento para Florida*, the same award the "ill-fated" Narvaez had been attempting to consolidate, since his return to Mexico.¹¹⁶ If the lands were as poor as he had indicated, why would he want to return to them? It would be Hernando de Soto rather than Cabeza de Vaca who would be granted the right to "conquistar y gobernar" La Florida.

¹¹⁵ Adorno, vol. 3 (1999): For de Soto, 129ff. For Coronado, *op cit*, 141ff. Both discussed in sections following.

¹¹⁶ Adorno, vol. 1 (1999): 380.

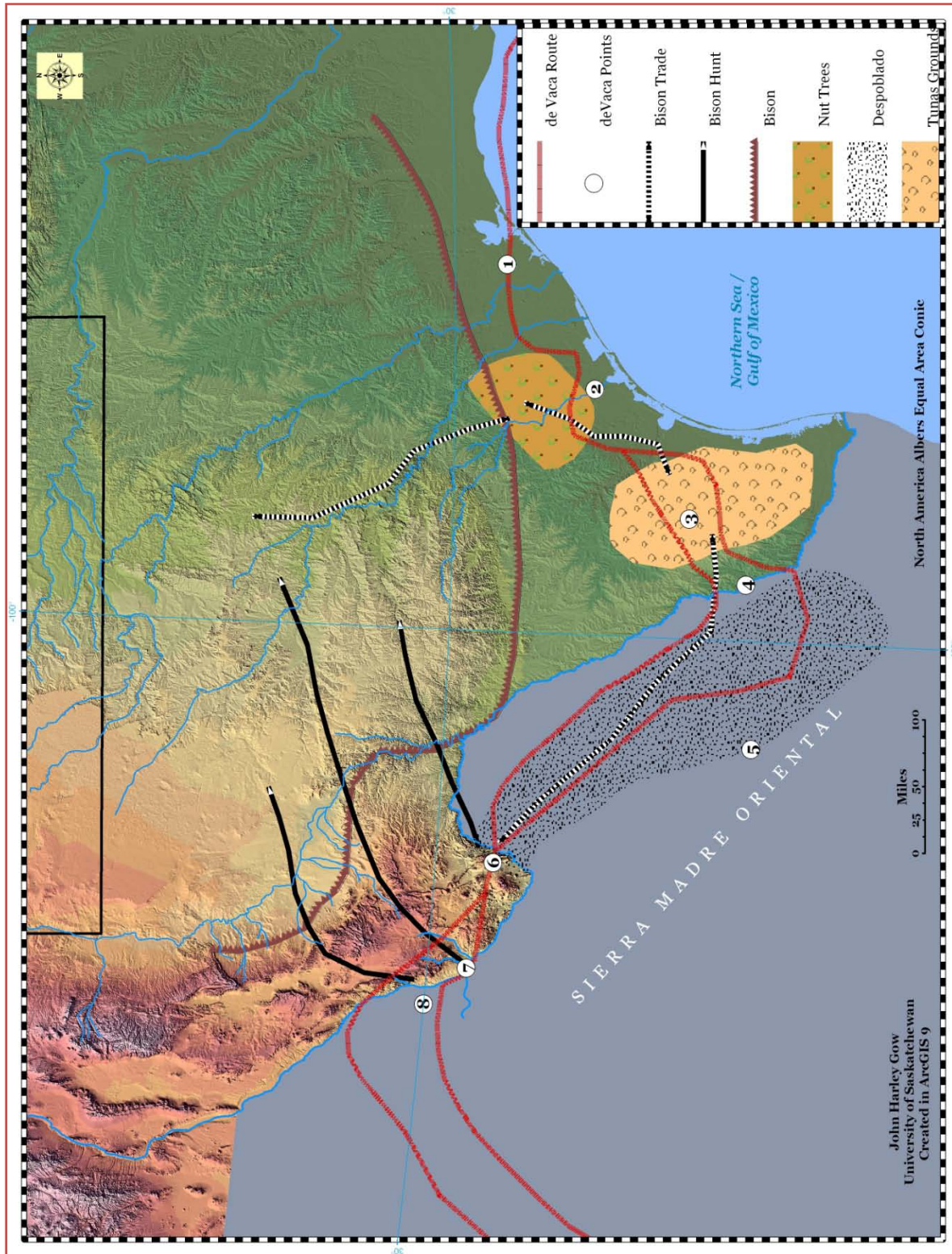


Figure 2.9. De Vaca: Bison economy.

Figure 2.9 condenses into visual form the major points gleaned from submitting the Relación to this HGIS investigation. The conclusions of this section are based upon that methodology. It is tempting to jig de Vaca's route to include the Southern Plains *a la* the "all-Texas" model, if only because of the ease of finding American GIS data. However, rejecting that approach outright is key to these concluding remarks. De Vaca can be shown to have generally skirted these Plains and at best penetrated inland fifty kilometers, by his own reckoning. Given that two of his three reported sightings of bison can be shown to be in conjunction with the visit to the "people of the cows" limits even further the chances that he witnessed bison along the coast of La Florida/*Texas Gulf Coast*. There is little or no evidence that bison hunting was practiced by the various peoples along the 'Texas Gulf Coast' in the 1530s. Yet, while at the nut gathering grounds, de Vaca had traded medical expertise with the Susola Indians in exchange for goods including "hides." This act could be interpreted to assume that there was a direct connection to the interior bison herds from the nut grounds near the coast, and perhaps this was the site of the third bison sighting. However, later on de Vaca reveals that the Susola were again encountered at the second *tunas* ground on the Rio Grande, close to where de Vaca gives his accounting of the coastal peoples. This suggests a lateral seasonal round in which the Susola wintered on the Rio Grande and travelled to the nut grounds in summer.¹¹⁷ Equally likely is that de Vaca obtained hides only from trading with the Susola at the nut grounds, and that these hides were obtained through trade with the "people of the cows".

Certainly the claim made by David A. Dary in *The Buffalo Book* that de Vaca "[a]t least three times ... saw vast herds of the shaggy animals grazing peacefully on the rich grasslands, and...ate buffalo steak several times" is a wildly exaggerated claim.¹¹⁸ W.W.H. Davis' *The Spanish Conquest of New Mexico* is credited as the source for this claim, but a search of that book reveals that Davis merely used the same de Vaca lines ("Cows sometimes range as far as here, and three times I have seen and eaten of them.") quoted above.¹¹⁹ Dary appears to have been a disciple of the "Seton School" of bison numbers which posited that "there were 75 million

¹¹⁷ Adorno, (1999): 160 ff. Also, seen *n* 2, 163. For an accounting of the order in which the groups were encountered, east to west, see 187.

¹¹⁸ David A. Dary, *The Buffalo Book: The Full Saga of the American Animal*, rev. ed: (Sage Swallow Press, 1989[1974]): 8.

¹¹⁹ W.W.H. Davis, *The Spanish Conquest of New Mexico*, (Doylestown, PA, 1869).

buffalo in North America before the white man arrived.”¹²⁰ Seton’s guesstimate required putting every theoretically available acre of bison range to work in his calculations, and this may have influenced Dary’s reading of de Vaca’s account.

Conversely and importantly, de Vaca provides no evidence that the Southern Plains were devoid of bison in the 1530s. Some hold that at times in the pre-historical past, including during a “dry period from 500 C.E. to 1300 C.E. ...bison were either largely or totally absent from Texas and New Mexico”.¹²¹ Paul Carlson has written that archaeology indicates the bison-hunting “mobile lifestyle” we associate with the Southern Plains was in 1530 a recently established lifestyle on the *Llano Estacado*,¹²² and De Vaca may have been reporting on the establishment of the bison hunting economy. We know from the de Vaca that the “people of the cows” had been unable to plant corn for several years because of drought. However, these people went to hunt bison from their permanent homes on the Rio Grande (from Points 6 to 9) in what sounds like customary style. The best we can ascertain is that they headed north and west to do so, as depicted by the “Bison hunt” layer. Bison were then present in some numbers in both *New Mexico* and *Texas* above the *Big Bend* of the Rio Grande during the 1530s. It is possible too that bison descended as far south as the southwestern plains of Texas around San Antonio during the same period; de Vaca neither confirms nor disproves this.

De Vaca is an important source in regards to the conjunctions of disease and aboriginal histories. Without question, this ‘expedition’ was responsible for the introduction of European pathologies into the Southern Plains aboriginal world. Typhus, because of the nature of its transmission, likely preceded, followed, and emanated from de Vaca’s progress across *Texas* in the early 1530s. Aboriginal trade routes and seasonal-rounds would have carried this flea-borne disease even further. The mapping model herein demonstrated how typhus and likely other ‘European’ microbes spread out from de Vaca’s progress. Trade routes would certainly have carried typhus from coastal groups onto the plains. In particular the Susola and Jumano, demonstrated in the texts to be trading groups, suffered from and would have further spread this killing disease. The Jumano would have carried typhus further up the Rio Grande and Pecos

¹²⁰ Dary (1989[1974]): 29. Ernest Thompson Seton, *Life Histories of Northern Animals* is listed as the source, at *n* 13. “Seton School” is the author’s neologism, with apologies to Seton School in Manassas.

¹²¹ Dale F. Lott, *American Bison: A Natural History*, (Berkeley: University of California Press, 2003): 73

¹²² Paul H. Carlson, *Deep Time and the Texas High Plains: History and Geography*, (Lubbock: Texas Tech University Press, 2005): 70.

Rivers; the Susola likely connected with other Caddoan groups in the eastern coastal plains of Texas. It is not inconceivable that de Vaca's microbes spread into the Mississippian aboriginal presence.

Did the notion of The GAD begin with Álgvar Núñez Cabeza De Vaca? The *Relación* does not in and of itself provide any evidence for thinking that the Southwest Plains were a desert either in the *despoblado* or *desierto* senses. As a cultural desert or *despoblado*, de Vaca reveals a world in which aboriginal groups had their potential territories seriously bounded and circumscribed by surrounding aboriginal groups. Every direction in which de Vaca went, he encountered discrete groups. The only exception to this was when he travelled north along the Rio Grande, the area he described as a *despoblado*. De Vaca only penetrated some fifty kilometers inland from the Gulf coast, but he never encountered another *despoblado* on the borderlands of the Southern Plains. In the *desierto*, or literal environmental sense, de Vaca provides no evidence for believing he encountered an environmental desert. At best, careful reading of the *Relación* suggests he was steered away from crossing a literal desert in 'Chihuahua' by his hosts. The overall impression gained from reading de Vaca is that, far from comprising either a literal or a cultural desert in the 1530s, there was very little space in the Borderlands that was not being fully utilized by aboriginal groups.

De Vaca's return to Spanish civilization proved to be a great surprise to his countrymen, and coincided with the first months of imperial control of Mexico. The three surviving Spaniards: de Vaca, Maldonado, Dorantes, all presented their stories to the newly appointed Viceroy Antonio de Mendoza. Their narratives of the journey proved a spur to Spanish entradas northward. This in spite of the fact the first argonauts reported neither gold or silver nor seven golden cities. That none of the three surviving Spaniards: de Vaca, Maldonado, Dorantes, could be induced to return leading entradas can be taken as evidence they had found no great wealth.¹²³

¹²³ Sauer (1971): 125.

CHAPTER 3

The Conquistadors View The Great Plains: 1541-1583.

With the second wave of Spaniards, the conquistadores, came the instruments of colonization, horses and firearms, *in situ* journaling and mapping. As Walter Mignolo has written it was not just weapons that made the “noise” of conquest. This “noise” was also “made by maps and geographical descriptions,” that unquestionably helped the conquerors construct the “‘silence’ to which Amerindian territorial representations were eventually reduced.”¹ It would be a grave mistake to assume this silence was anywhere near total or easily achieved; aboriginal resistance in the Spanish borderlands has never ceased, and although many groups have been extirpated, Oklahoma and New Mexico today boast large and vibrant Indian populations.² Only Texas achieved anything approaching genocidal Indian removal.³ Every argonaut enterprise that approached the Study Area generated journals and maps depicting territorial and environmental images, reports of gold mines and great cities – no matter how self-serving and fictionary - and reports of aboriginal presence and how to deal with ‘it’.⁴ This chapter deals with the first European argonauts to report on the Study Area and the noisy process of their attempts at extending euro-national knowledge and influence onto the Southern Plains.

The Spanish⁵ second wave of argonauts that followed Cabeza de Vaca and Fray Marcos into the Southwest did so armed with the foreknowledge provided by the *Relación*. De Vaca’s account and its dearth of evidence of mineral wealth neither spurred a gold rush nor quashed Spanish dreams of gold; however, his evidence in combination with other tales returned from La

¹ Walter D. Mignolo. *The Darker Side of the Renaissance: Literacy, Territoriality & Civilization*. 2nd. ed. (Ann Arbor: University of Michigan Press, 2006 [1995]): 296.

² The issues of removal, hence immigrant and non-immigrant Indians, is an issue many Canadianists may not be that familiar with. While Oklahoma was initially Indian Territory for displaced eastern groups from as far away as New York State, it is also home to native groups such as Apache, Comanche and Wichita. This is a vast subject area perhaps best introduced in Michael D. Green, *The Politics of Indian Removal: Creek Government and Society in Crisis*, (Lincoln: University of Nebraska, 1982).

³ Gary Clayton Anderson makes a solid case for genocide in *The Conquest of Texas: Ethnic Cleansing in the Promised Land, 1820-1875*. (Norman: University of Oklahoma, 2005).

⁴ Even the earliest and most helpless of argonauts, Cabeza de Vaca, related how best to deal with aboriginals as a military problem.

⁵ Spanish will after be used to describe European endeavours and individuals and Hispanic to describe the Creole or euramerican individuals.

Florida compelled the first viceroy of New Spain, Antonio de Mendoza, to investigate. This would be one of Mendoza's first official acts, and therefore, one of the first acts of Spanish governance in Mexico.

George Parker Winship wrote that in colonial enterprises generally,

[t]wo classes of colonists are essential to the security and the permanent prosperity of every newly opened country. In New Spain in the sixteenth century these two classes, sharply divided and...antagonistic—the established settlers and the free soldiers of fortune—were both of considerable importance.⁶

Always preceding the settlers was the second class “free soldiers of fortune”, or *conquistadores*. The first of these to reach the Study Area was Francisco Vázquez de Coronado.⁷

Coronado, 1541.

Born in Salamanca in 1510 as the youngest son in a “family of the lesser nobility,” Coronado embarked for the New World in 1535; a ‘victim’ of primogeniture. In the service of the new viceroy, Antonio de Mendoza, he arrived in Mexico, married and settled into a life supported by the “tribute of the Indians of the town and province of Tlapa.” In 1538 he became *gobernador* of the then northern province of Nueva Galicia.⁸ Following the return of Fray Marcos to Mexico, Mendoza was pressured in 1540 to send an expedition to find the Seven Cities of Cibola; Coronado was to lead. He set off with an “army of 300 Spaniards and some 800 Indians” February 4, 1540.⁹ Coronado was guided on his journey north by Indian guides, as well Fray Marcos de Niza. In addition to the land army there was a marine component. Two ships commanded by Hernando de Alarcón and loaded with arms and provisions were to proceed on a ‘milk run’ up the coast of California, stopping frequently to “get in touch with Coronado.”¹⁰

⁶ George Parker Winship, *The Journey of Coronado, 1540-1542*, Translated by George P. Winship. (Golden, CO: Fulcrum, 1990[1904]): 29. For all its dated language and exceptionalist premise Winship's “Historical Introduction; The Causes of the Coronado Expedition, 1528-1539,” is a good introduction to the Spanish enterprise north of Mexico.

⁷ Proper short form, Vázquez de Coronado, but herein I use the vernacular form, Coronado.

⁸ Today, roughly Guadalajara.

⁹ Ralph H. Virgil. “Coronado,” 227-228. David J. Wishart, ed. *Encyclopedia of the Great Plains*. Lincoln: University of Nebraska Press, 2004.

¹⁰ George P. Hammond and Agapito Rey, ed. *Narratives of the Coronado Expedition, 1540-1542*. (New York: AMS Press, 1977[1940]): 9.

This examination of Coronado's Quiviran expedition relied upon Flint and Flint's excellent 2005 omnibus, *Documents of the Coronado Expedition*.¹¹ Anyone interested in pursuing Coronado is advised to start with this book, a new translation and collection of all the Coronado documents extant. The classic starting point for Coronado was, after Winship (1896) and until the Flints, Herbert E. Bolton's *Coronado on the Turquoise Trail* (1949). The Coronado route has been a political football kicked even further than was De Vaca. All routes proposed for the Coronado Expedition were constructed from flawed translations of a single document written twenty years after the expedition returned, and by a journalist who was not present at all stages of the journey. This is the first attempt at putting the expedition under the lens of GIS scrutiny.

All explications of the route are built upon "The Relación de la Jornada de Cíbola, Pedro de Casteñada de Nájera's Narrative."¹² Nájera (b.1515?) was one of many Andalusians who relocated to the New World in the second and third decades of the 16th Century. He settled near Guadalajara and was pressed into service as an armored horseman in several exploratory and punitive actions in Mexico. It is unknown how he came to be on the Coronado enterprise, but we do know that he was present for many of the exploits he would later document, including the dash to Quivira¹³. Nájera was an excellent literary writer, and his Relación is constructed as an episodic narrative. Crucially, the Relación was written down at least two decades after Nájera's safe return. Its intended audience was potential argonauts interested in exploiting Quivira as settlers; Coronado had proven beyond sensible doubt there was no ready treasure in Quivira.¹⁴ The editors make an excellent case for Nájera's holding the belief that Quivira was a stop on the road to "Greater India", and the wealth and population of the East. Nájera was also bitter about

¹¹ Flint, Richard and Shirley Cushing Flint, *Documents of the Coronado Expedition, 1539-1542: "They Were Not Familiar with His Majesty, nor Did They Wish to Be His Subjects,"* (Dallas: Southern Methodist University Press, 2005).

¹² Available editions of this Relación include those of George Parker Winship (c. 1990), and John Miller Morris (2002). This exercise relies upon the Flint transcription and translation (2005): 378-493.

¹³ *Quiviro* in New Mexican Spanish means 'broken' or 'strange'. I presume this was the root meaning of Quivira. Likely the Spanish interpreting the Pueblo signifier for 'enemy others'. The term seems to have been used since contact between Spanish and Pueblo. Part of the confusion as to where Quivira was located is then accounted for as the Pueblo probably applied the meaning to several groups. The term has been absorbed into the literature to mean the Arkansas location, but period maps have it situated anywhere from the Mississippi to California. Gran Quivira has been applied *post facto* to a likely Jumano or Tewa pueblo ruin southeast of Albuquerque [34°15'35"N, 106°5'25"W]. *Mesa de los Jumanos* is some fifteen miles away, closer to the Pecos. Delorme, *New Mexico*: 31, 33.

¹⁴ Flint and Flint (2005): 380.

Coronado's failure to explore past Quivira and find that golden East.¹⁵ The Flints make a very good case that for argonauts like Nájera, certainly not Coronado, it was the opportunity to set up *encomiendas*¹⁶ that drew 'rank and file' Spaniards to Nueva España, and *encomiendas* relied upon exploiting large "prosperous peoples."¹⁷ Nájera's narrative makes clear that while Quivira held no treasure, it had the population and environmental capability to support *encomiendas*.

I presume that Nájera had the best intentions of producing a narrative that would enable argonauts to re-find Quivira. Seemingly no maps were produced by the Coronado enterprise during or after the events. Nájera's efforts may be thought of as a textual guide to the place as best the author could recall after twenty years. Perhaps this document, written in the "late 1560s" and copied in 1596, constituted a road map to Quivira intelligible in its day. The purpose here is to see if GIS can aid in finding an approximate route. Considerations such as existing maps and connection to archaeological sites are herein referenced, while they were studiously ignored by this writer in plotting Nájera's course. This analysis begins as Coronado "tried to leave the land calm in order to go in search of Quisvira" (Fig. 3.1).¹⁸

¹⁵ The map *Universale Descrittione di tutta la terra conosciuta fin qui* (Paolo Forlani, c. 1565) shows America and Asia as one continuous continent. Forlani had the Gulf of Mexico figured nicely, but for having the Rio Grande empty into the Pacific. The California peninsula is present. In, Derek Hayes, *Historical Atlas of the American West; with Original Maps*, (Berkeley: University of California Press, 2009):19; Map 25.

¹⁶ *Encomienda*: "land and inhabiting Indians on that land granted to deserving Spanish colonists." Cobos (2003). The best explication is Gary Clayton Anderson's "virtual enslavement [of natives]... a labor system designed to subjugate and Christianize captured Indians. [Colonists] used the laborers to create wealth. Although the Catholic Church recognized the frequent abuses that arose from the encomienda system, it built a large mission system that depended [upon it]." Anderson. *The Indian Southwest, 1580-1830: Ethnogenesis and Reinvention*. Norman: University of Oklahoma Press, 1999. The *encomienda* system never rooted in the Study Area due to aboriginal resistance and other factors including Hispanic disinclination to colonize the region.

¹⁷ Flint and Flint (2005): 381.

¹⁸ Nájera, Pedro de Casteñada de. "The Relación de la Jornada de Cíbola," Richard Flint and Shirley Cushing Flint. *Documents of the Coronado Expedition, 1539-1542: "They Were Not Familiar with His Majesty, nor Did They Wish to Be His Subjects"*. (Dallas: Southern Methodist University Press, 2005): 378-496.

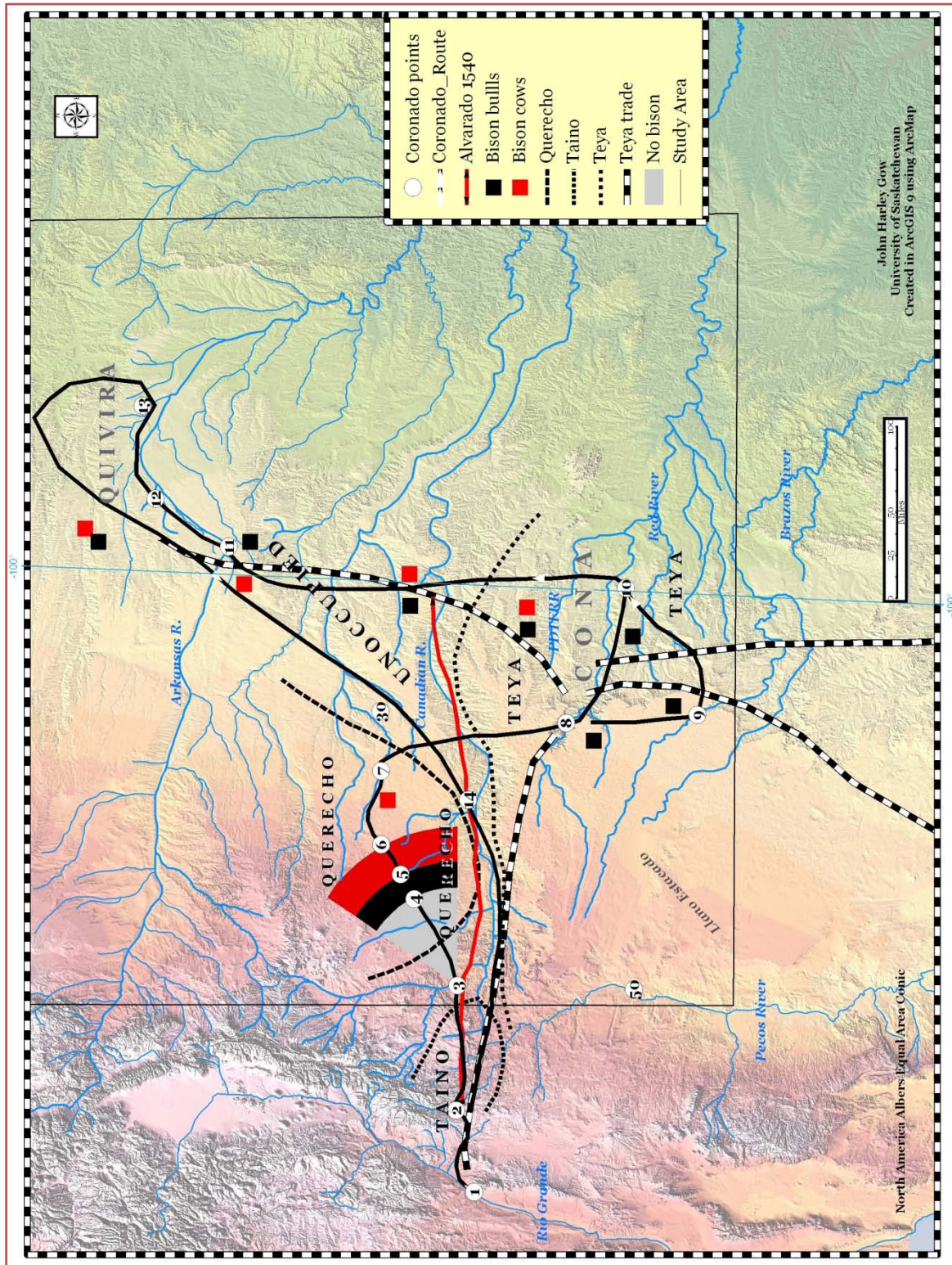


Figure 3.1: Coronado Route.

A typical observation from Nájera was that “Midway through the siege of Tiguex [Coronado] decided to go to Cicuyec [Cicuye];” this was early May, 1541.¹⁹ Tiguex Pueblo is **Point 1** on the map above. Coronado’s entrada was epically destructive of the Pueblo, events largely unexamined herein.²⁰ Cicuye, discussed at length below, was the Taino (Tano, etc) capitol near *Pueblo NM* [2]. It took the Spanish four days to transit these fifty-odd miles [90 km], but they were all gathered at Cicuye by May 5.²¹ Jaramillo noted that the line of travel was “to the northeast.”²² It cannot be overemphasized that the Coronado expedition was no ‘lean fighting machine,’ but rather a balky agglomeration of some “two thousand persons and several thousand head of livestock.”²³ The timing of this trip was partly political; the various pueblos were at least temporarily subdued or abandoned. Also, departure coincided with the break-up of the *Rio Grande* which had been frozen since January.²⁴ As Cabeza de Vaca had shown, it was by all indications a much colder and wetter period in the intermountain as well on the Southern Plains. Paul H. Carlson observed that the same “little ice age” that froze the *Rio Grande* in 1541 also sealed London’s Thames River.²⁵ Reaching Cicuye, Coronado returned a seized captain, Bigotes, to the Taino, ensuring a more peaceful departure. The Spanish had with them an informant, El Turco, who insisted he would guide them to the gold and silver they sought. It is clear from the record that El Turco sacrificed his life to lead the Spanish away from his

¹⁹ Flint, Richard. "Reconciling the Calendars of the Coronado Expedition: Tiguex to the Second Barranca, April and May." In *The Coronado Expedition; from the Distance of 460 Years*, edited by Richard Flint and Shirley Cushing Flint, 151-63. (Albuquerque: University of New Mexico Press, 2003): 155. The dates of the Expedition were experienced on the Julian calendar, but recorded on our Gregorian calendar. In 1582 Pope Gregory XIII decreed that ten days be dropped to synchronize calendar and seasons. By order, October 4 was followed by October 15 (Flint 2003: 153ff). Flint’s paper attempts to square the dates of the Coronado Expedition; a noble effort at an impossible task given the paucity of dates given in the sources. Unfortunately, Flint ended his project midway in the Quivira exploit.

²⁰ Nájera (2005[1596]): 407.

²¹ Nájera wrote it was 25 leagues “from Tiguex...to Cicuyec.” This was an expedition heavily laden with wagons, cannon, and domestic animals, forced to follow ‘roads’ and therefore tracking longer distances than more mobile groups. This is also one of the few points that allows for figuring travel distances; they moved at about six leagues per diem, when fresh and over established Indian roads. Some elements of the party set out days in advance, and presumably these included the bulkier elements such as wagons and oxen. I believe ten miles per day was the ‘normal’ day’s travel once under weigh.

²² Jaramillo (2005[1560s]): 514.

²³ Flint (2003): 152.

²⁴ Nájera (2005[1596]): 407.

²⁵ Carlson, Paul H. *Deep Time and the Texas High Plains: History and Geography*. (Lubbock: Texas Tech University Press, 2005): 83.

homeland;²⁶ this contributed immeasurably to the chaotic nature of Coronado's progress upon the Plains.

"[L]eaving the [Cicuye] *pueblo* at peace, because their governor and captain had been returned to them," Coronado's expedition "traveled so as to go to the plain that is beyond all the mountains."²⁷ After four days of "walking on the trail", perhaps 75 miles / 25 leagues by the previous leg's example, they faced on May 10th a "swift, deep river that came down from the direction of Cicuye." They spent four days building a bridge over this stream so that the expedition and "all the livestock" could cross to the east [3], which they accomplished May 14th.²⁸ I make this "swift, deep river" to be the *Canadian*, and they must have struck it after crossing the *Las Vegas* highland;²⁹ both Herbert Bolton and George Parker Winship decided on this sensible route (Figure 3.2). Another reason for choosing the *Canadian River* route is that Coronado had some knowledge of 'the way to the plains' from an earlier sally made by Hernando de Alvarado (Polyline, **Alvarado 1540**, Fig. 3.1). Alvarado in 1540 had gone from Cicuye to;

the plains where the [bison] are...At the beginning [of the plains] he found a small river which flowed to the southeast. After four days journey he found the [bison]...He followed this river a hundred leagues, each day finding more...³⁰

This position is considerably at odds with routes figured by John Miller Morris, Flint, and other writers.³¹ Jaramillo reported their course after Cicuye was "somewhat beyond northeast [north-northeast];"³² Morris, Flint, et al have Coronado heading southeast to make the *Pecos* crossing.

²⁶ Wherever that may have been; El Turco was possibly from Quivira, on the upper Arkansas River, or possibly from the lower Arkansas or even Mississippi Valley. My opinion is that El Turco led the Spaniards north away from his people on the lower Arkansas.

²⁷ Nájera (2005[1596]): 408. This would seem to me to be east, not southeast as per Flint, et al.

²⁸ Using the calculated dates from Flint (2003): 155.

²⁹ While this steppe is clearly part of the Llano Estacado geological composition, it is also a separate geography as is clear in all argonaut records. The mapping convention is to include the region as the northern terminus of the Llano; it is geologically, but never historic-geographically part of the Llano.

³⁰ Anónimos. "The Relacion del Suceso, 1540s." 497-507, in Richard Flint and Shirley Cushing Flint. *Documents of the Coronado Expedition, 1539-1542: "They Were Not Familiar with His Majesty, nor Did They Wish to Be His Subjects"*. (Dallas: Southern Methodist University Press, 2005): 499.

³¹ All primary sources are clear that they traveled 3-4 days from Cicuye before reaching the river that had to be bridged. Flint has this as the Pecos River, as does Morris. No other expedition on record ever had to bridge the Pecos to cross it. Since Cicuye is/was a mile or two from the Pecos River the only way to get them to bridge it after 3-4 days travel is to head due south and this is not sensical. The Pecos would have gotten more formidable as they traveled south in this rainy year. Further, Nájera and Jaramillo both stated they traveled northeast after Cicuye. The Miller/Flint routes seem to be driven by a need to have

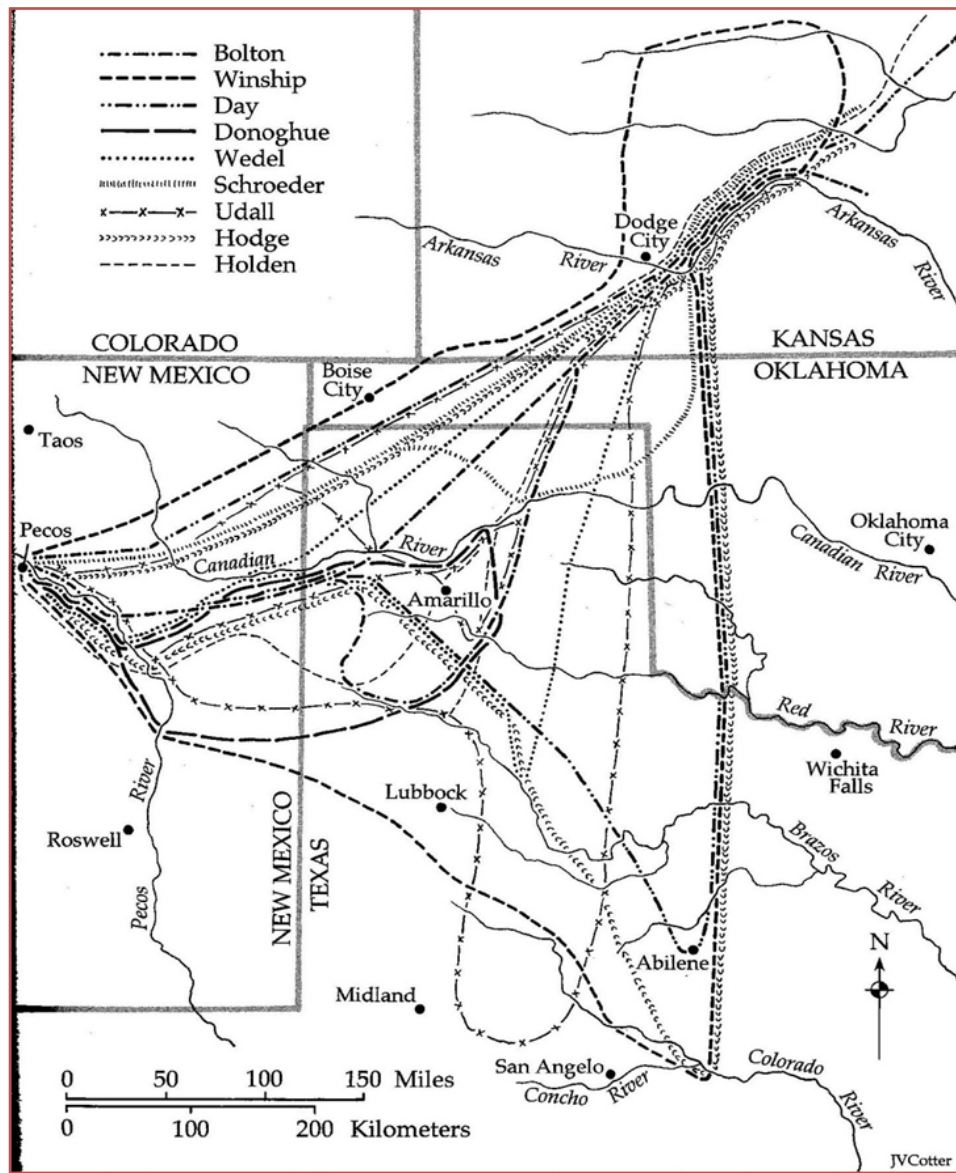


Figure 3.2. John Miller Morris's Coronado Routes. *El Llano Estacado: Exploration and Imagination on the High Plains of Texas and New Mexico, 1536-1860*. (Austin: Texas State Historical Association, 2003[1997]): 41.³³

Coronado present at the Jimmy Owens archaeological site [Point 99, Figure 2]. There is no conclusive evidence it was Coronado who camped at Jimmy Owens.

³² Jaramillo (2005[1560s]): 514.

³³ The map was constructed by John V. Cotter. Note the tendency to jig routes to accommodate state lines; poor Colorado! No element of the Coronado Expedition struck or crossed the Red River, much less the Colorado. The routes that confine themselves to the vicinity of Amarillo TX are all reasonable interpretations of the limited clues provided by the texts. Alfred Barnaby Thomas noted as an MA the tendency of Spanish routes to adhere to state lines in secondary sources, and concluded that "histories of

After crossing the bridge, Jaramillo recalled they “turned more to the left [north].”³⁴ Once across the Rio de Cicuy/*Canadian* they traveled five days, estimated 20 leagues (55 miles) before encountering bison, May 18th.³⁵ Jaramillo noted that the first bison, encountered were bulls [4/ Polyline: Bulls].³⁶ Both sources agree that two days later, and marching through masses of bulls, they encountered “rancherías de gente...querechos;”³⁷ several rancherías of Querecho/Apache. Jaramillo confirms that the Querechos were found amidst bison cow herds [5/ Polyline: Cows]. That the Querecho never fled the Spanish indicates they had nothing the Spanish felt worth stealing. They possessed no mineral wealth, they had no visible stores of maize or grains, and they had no accumulated trade goods such as hides. It is surprising that they were encountered on the bison range in calf season. The Spanish would later engage in a frenzy of greed when faced with stores of trade-ready hides; why did these Querecho groups not have hides? I interpret this as evidence of the stranglehold the Jumano had on pueblo trade.

The Querecho lived in tents and used dog transport. The juxtaposition of bison cow and the Querecho, “Arab-like people”³⁸ who lived by following the bison, is instructive on a few levels. First this record establishes the southernmost penetration of the Apache in 1541: later argonauts would establish the country south of the *Canadian* as Jumano country. Secondly, this helps locate cows in relation to bison bulls on the *Canadian Plains* in the spring, between the *Canadian* and *Arkansas* rivers and on the short grass steppes. Thirdly, the association of hunter-

... Spanish expeditions must be written from the diaries and other records kept by the Spaniards themselves.” Alfred Barnaby Thomas. “Spanish Expeditions into Colorado,” 289-300. *The Colorado Magazine* 1:7 (1924): 300.

³⁴ Jaramillo (2005[1560s]): 514. Jaramillo’s repeated insistence on the north-northeasterly route is evidence against a Llano Estacado route requiring a southeasterly line of travel.

³⁵ I agree with editor Flint that the rate of transit dropped significantly in the presence of bison and aboriginal groups. Particularly for neophytes, all forward progress stopped when they encountered their first bison. Much time was spent in hunting and processing meat in the days after this first contact.

³⁶ Jaramillo (2005[1560s]): 514. Clearly they marched for days before encountering bison, both sources indicate to the northeast; Nájera (2005[1596]): 408. I buffered the bridge site at fifty-five miles based on five strenuous or eight easy days travel.

³⁷ Nájera (2005[1596]): 463, [fol. 78r]. Precisely where they found bison is conjectural. All sources support the relationships between bison, and bison and men. Two days after striking seas of bulls (say 15-20 miles), the Spanish noted seas of cows and the Querecho camps. Another two days travel saw them strike cows, bulls and calves combined, and further Querecho camps.

³⁸ *Alarabe*; the Flints have a nice discussion of this aspect of Nájera. This identifies the Querecho as heathen and unsettled, but also signs that the Spanish were mentally prepared to find the Far East just beyond Quivira. Flint (2003): 380

camp and cows is indicative of the Apache seasonal round at that time. Again, Jaramillo is instrumental in pointing out that after the Querecho camp and after traveling “two or three days, meeting bulls,” they found themselves “among a huge multitude of cows, calves and bulls, all intermingled.”³⁹ Given the time of year and the nature of bison society, the “intermingled” bulls were undoubtedly immature ones.

The Querecho and Spanish communicated by sign, meaning that the (likely) Caddoan-speaking El Turco was of no use in translating Apachean. Further, this situates the southernmost extent of the Apacheria in 1541, confirmed by the Coronado return which tracked north of the outbound route. The Querecho said that “downstream toward where the sun rose” there was a “very large river...a league wide” where there were endless Indian settlements; this could only be the *Mississippi River*. This helps locate the Expedition on the east-flowing *Canadian River* system. “For two days” traveling NNE, “other Querechos were seen encamped,” amid “incredible” numbers of “vacas”, cows.⁴⁰ Nájera is a valuable source for figuring bison as he was one of very few argonauts who differentiated between bison cows, bulls and combined herds.

My approach to GIS mapping these valuable environmental observations was to discard previous ideations of the Coronado route and map from the rough data provided by Jaramillo primarily and Nájera and other sources secondarily. Starting from the bridge point, travel distances of five days (55 mi.), seven days (75 mi.), and nine days (95 mi.) were plotted. I regard these distances as the utmost limits of travel distances. Then, I figured polygons circumscribed by the travel directions of northeast to north-northeast. Rather than try and find a specific point for the individual observations this approach provides a geographic range of possibilities, similar to the approach taken with the Cabeza de Vaca route. This approach provides a speculative but perhaps a truer, picture of the Plains and Coronado observations. Many previous routes were driven more by the figurers’ need to get Coronado to specific archaeological sites than by evidence present in the sources. These sites as mapped are also supported by later argonaut routes, particularly in regard to Querecho and Teya/Jumano locations in 1541. The greatest surprise in this data was in the report of masses of bison bulls between the

³⁹ Jaramillo (2005[1560s]): 514.

⁴⁰ Nájera (2005[1596]): 408;]): 463, [fol. 78r].

bison cow and calf biomass and the steppes/mountains. This was a unique observation, although it may not have been a unique occurrence.



Figure 3.3: Canadian River Plains Above Canadian TX, Ochiltree County, October 2008. Photograph the author.⁴¹

Here on the cow bison range it was so flat and featureless that the Spaniards commonly became lost when they strayed from camp. Jaramillo gives the impression that the Spaniards travelled NE or NNE for “eight or ten days,” perhaps having been “twenty days or more” since leaving Cicuye.⁴² At six leagues a day and using the convention of one days rest per week, and other breaks for hunting, perhaps they had covered 100 leagues or 300 miles since the pueblos. While food was plentiful and grazing obviously was not a problem, Coronado was becoming convinced that his guide El Turco was lying about the location of Quivira. Coronado began sending out smaller scouting expeditions in seemingly all directions. One, Diego López, “traveling at full speed for two days...toward [where] the sun rose,”⁴³ covered twenty leagues

⁴¹ Some writers insist this means they could only have been upon the Llano. I can personally attest to experiencing the same experience of ‘flat and featureless’ on the Canadian River Plains.

⁴² Jaramillo (2005[1560s]): 515.

⁴³ Nájera (2005[1596]): 408.

[60 miles] and saw “nothing except [bison] and sky” [8].⁴⁴ Hunters from the expedition, following behind López, ran a herd of bulls into a ravine. There were so many animals they “filled it level”, and the pursuing hunters lost their horses in the pitching mass of dying bison [7].⁴⁵ When López returned to the main expedition it was clear that Coronado no longer trusted his guide El Turco. Sopete⁴⁶, a “tattooed Indian” traveling with them, native to Quivira, insisted he knew the way and that El Turco was misleading the Spanish. It is presumed, not stated, that Sopete was a Jumano/Wichita. Coronado responded by sending out another set of scouts, this time apparently in the opposite direction Sopete recommended. López may have found the eastern limits of the bison biomass in his foray for upon his return the expedition shifted direction. Jaramillo later noted they feared El Turco “led us away from the course [to Quivira] onto those plains...so that we would consume our food. Then, because of a lack of [food], we and the horses would become weak.”⁴⁷ Rodrigo Maldonado and a small company then rode out four days, likely due south to southeast from the bison plains. Why they would now march to the south away from Quivira is unknown, but that direction is supported by their next set of observations. Another reason for choosing this point for the change in direction was the experience of Alvarado, a member of the expedition, who had the previous year traveled one hundred leagues along the *Canadian* finding only bison.⁴⁸

After four days of travel, likely at the same rate as López, forty leagues or 100 plus miles, Maldonado found the famous “great *barranca* like those of Colima” [8].⁴⁹ The main party arrived some days later by following “markers of bone and dung” left by Maldonado.⁵⁰ It sounds very much like Coronado had ascended now to the *Llano Estacado*. Coronado wrote that,

after five days...I arrived at some plains so without landmarks that it was as if we were in the middle of the sea... [the guides] became confused , because on all sides there

⁴⁴ Nájera (2005[1596]): 409.

⁴⁵ Nájera (2005[1596]): 408.

⁴⁶ Elsewhere, Ysopete, et cetera.

⁴⁷ Jaramillo (2005[1560s]): 515.

⁴⁸ I believe that Alvarado’s knowledge of the Canadian is overlooked as a factor in Coronado’s route decisions. John Miller Morris has all the ‘Coronadians’ track the Pecos south rather than the Canadian east. Morris (1997): 20.

⁴⁹ Nájera (2005[1596]): 409. Definition: *Barranca*; canyon, ravine, or gully, depending on context. Cobos (2003).

⁵⁰ Nájera (2005[1596]): 409.

is not a single stone or hill or tree or bush[.] There are numerous, very beautiful pastures of excellent grass.⁵¹

This language is emblematic of the *Llano*; all travelers across it used the same language, and it differentiates this location from all other plains sites. Here is clear evidence that Coronado had not until then been crossing the *Llano*. That there was “excellent grass,” and that bison hunters got lost when detached from the expedition suggests there were bison on the *Llano*, but that it was not covered in them as were the *Canadian* plains. Coronado’s text suggests the *Llano* was a wetter, greener, and cooler place than later argonauts and aboriginal groups would know.

Using Flint’s table of dates, Coronado likely arrived at the *barranca* about June 5, 1541. Significantly, Jaramillo made no mention of a great canyon at the first ranchería but merely observed that these “Indians...had the same dwellings” and lifeways as the Querecho.⁵² From the north at any point along the *Llano* the first *barranca* they could encounter was the *Prairie Dog Town Fork Red River*, at what is now known as *Palo Duro Canyon* [at 35°N, east of 102°W].⁵³ Importantly, Coronado identified the group as Teya,⁵⁴ and enemy of the Querecho.⁵⁵ Nájera’s text is clear that the Teya camp was a ranchería, and not a pueblo. He noted all the Teya women were tattooed. Coronado wrote that the Teya had “all their bodies and faces abraded [labrados].”⁵⁶ He said the people were very numerous, that they ate their meat raw as the Querecho and “followed the bison.” This scant description and likely location suggest these were the ‘striped Indians’, or Jumano.⁵⁷ This location is consistent with many later argonaut

⁵¹ Vázquez de Coronado, Francisco. Letter, “Holy Catholic Imperial Majesty, 1541,” 319-325. Richard Flint and Shirley Cushing Flint. *Documents of the Coronado Expedition, 1539-1542: “They Were Not Familiar with His Majesty, nor Did They Wish to Be His Subjects”*. (Dallas: Southern Methodist University Press, 2005): 319.

⁵² Jaramillo (2005[1560s]): 515. This includes dog transport.

⁵³ Further evidence of them approaching from the north; had they approached from the west they would have sensibly followed the PDTFRR and not struck it.

⁵⁴ Nájera (2005[1596]): 410. I don’t believe the term ‘Teya’ was used by any other argonaut. Maybe this is the source of the future terms Tejas/Texas?

⁵⁵ Vázquez de Coronado (2005[1541]): 319.

⁵⁶ Flint translated this as ‘decorated’, signifying painted. Labrados means cut or carved signifying rather more permanent markings. Some writers opine these markings were knife cuts filled with ash or other colored material.

⁵⁷ The Jumano, a Caddoan people, had several disparate cultural sub-groups which included agricultural Pueblos on the *Rio Grande* and *Pecos* rivers, agricultural grass-house pueblos in Quivira and on the *Red River*, and mobile hunting groups such as here described.

observations of Comanche camps, establishing the continuity of this preferred environmental site.



Figure 3.4. The First Barranca. “The barranca of the Prairie Dog Town Fork Red River, July 15, 2010.”⁵⁸

These Teya had “heaps” of cured bison hides, some of which they presented to Maldonado along with a hide “tent as large as a house.”⁵⁹ When Coronado arrived he found a huge quantity [tan gran multitude de cueros]⁶⁰ and decided they should be distributed “fairly”. This mass of hides, all in one place, indicates the Teyas were traders, and I assume their market was the Pueblo some 250 miles west.⁶¹ That the hides had a central location indicates a high level of communal organization. Also, given the paucity of any other forms of wealth or stored food, this was likely an outlier hunting and processing camp. These hides set off a frenzy among

⁵⁸ Here looking towards the northern rim of the canyon, perhaps a league away. The haze is from humidity, at 11:30 hours it was 115°F, humidity approximately 90%. [34° 48' N x 101° 26' W].

⁵⁹ Nájera (2005[1596]): 409.

⁶⁰ Nájera (2005[1596]): 464, [fol. 81r/81v].

⁶¹ Difficult to say if the Jumano carried hides from this point as far south as La Junta (see de Vaca). This would have been a trip of at least 400mi/700km.

the troops and the locals both, who “stole them [so that in] less than quarter of an hour nothing was left but bare ground.”⁶² Nájera noted that the Teya cried having thought the Spanish would bless their goods as “Cabeza de Vaca and Dorantes had done”⁶³ rather than steal them. Jaramillo wrote that “an old, bearded, blind Indian” signed that “many days before” he had seen four Spaniards “closer to Nueva Espana.”⁶⁴ The Spaniards assumed, probably correctly, that the four Spaniards were De Vaca and company circa 1534-35. Sometimes used as evidence for an “all-Texas” De Vaca route, this is rather evidence of the formidable range of Teya/Jumano traders who knew the region from the *Gulf Plains* to Quivira. This episode also reveals why the Teya were not distressed by Coronado’s advance; they anticipated an exchange of gifts, goods, and culture as opposed to theft. It is not clear if the Teya now fled, but the Spanish would soon move on.

At the first *barranca* they experienced a tremendous “whirling storm...with the strongest of winds and hail.”⁶⁵ The hail was the size of “small bowls...and dense as rain,” and smashed all their containers, dented helmets, and in conjunction with the wind, tore the camp apart and drove off the animals. Shields, tents, and other equipment had to be retrieved from surrounding cliffs. The camp destroyed, hides seized, and with these Teya unable to provide anything but bison meat, the Spanish sought greener pastures. From the first *barranca* guides sought and found other Teya rancherías, and another *barranca*.

This second *barranca* may well have been Jimmy Owens site [9].⁶⁶ Nájera wrote that “[we] had completed thirty-seven days of travel of six to seven leagues each [or] two hundred

⁶² That some Teyas ‘stole’ back their own hides is a fascinating point. Were they merely collectively taking back what was the ‘tribe’s’ goods, or were individuals helping themselves?

⁶³ Nájera (2005[1596]): 409.

⁶⁴ Jaramillo (2005[1560s]): 515.

⁶⁵ Nájera (2005[1596]): 409.

⁶⁶ The most recent and thorough discussion of the Coronado route is that of Richard Flint and Shirley Cushing Flint, *The Coronado Expedition to Tierra Nueva*. (1997). One conclusion of that project is that the known texts do not provide enough data to pinpoint specific *barrancas*. In fact, “all of the canyons of the eastern Llano Estacado” contain both evidence of 16th Century aboriginal camps and “Rio Grande ceramics and bison bone[.]” Donald J. Blakeslee, Richard Flint, and Jack T. Hughes. “Una Barranca Grande: Recent Archaeological Evidence and a Discussion of Its Place in the Coronado Route.” *The Coronado Expedition to Tierra Nueva*, edited by Richard Flint, and Shirley Cushing Flint. (Niwot CO: University Press of Colorado, 1997): 382.

and fifty leagues to the [pueblos].”⁶⁷ Perhaps more likely it still it was the always occupied lands out along the *PDTFRR* [10]. Nájera noted “a densely settled land [with] *rancherías* extended over a territory covered by three days’ travel...called Cona.”⁶⁸ These Teya were simple horticulturalists as the Spanish reported “abundant beans, and plums, and grapevines”, but the Spanish found no maize or flour.⁶⁹ Since they reported ‘beans’ but not corn I presume these were mesquite beans and not domesticated ones.⁷⁰ There is no indication in the texts of the Spanish trading for anything. This incident would establish among the Plains Indians Spanish predilection for the ‘smash and grab’ exchange model. Further, after the Querecho the Spanish were not expecting to find agricultural produce on the Plains.

Nájera described the second *barranca* as being

a league from rim to rim [with] a small river in the bottom and level ground covered with meadows and groves of trees, and with plentiful grapes, mulberries, and [Rosales?...] turkeys, walnuts as good as those of Mexico, and many plums as in Castile.⁷¹

Jaramillo described the ‘second great *barranca*’ prosaically; “Un arroyo que estava metido Entre Unas barrancas y de buenas Vegas,” or, an arroyo or stream situated between cliffs and good meadows.⁷² The Spanish would remain here “many days,” resting and exploring. In Jaramillo’s text it is clear they went to the second *barranca* because it was environmentally a good place to have a group parley. The Coronado expedition was from the beginning rife with internal dissent. Among the Teya, Coronado learned that Quivira had no gold or silver and that their houses were made of grass, and were not the stone edifices El Turco promised; this news seems to have been the ‘last straw.’ Coronado would divide his forces, sending the majority back to Tiguex while he pursued Quivira with a more mobile thirty-man group. The Teya happily supplied guides to that land, however a few days out these worthies deserted and

⁶⁷ Nájera (2005[1596]): 410. Their methodology was to have one Spaniard make “an estimate” of distance, and another count the paces.

⁶⁸ Nájera (2005[1596]): 409. This description does not sound like a canyon to me, hence my consideration for the always occupied lands further down the *PDTFRR*.

⁶⁹ Nájera (2005[1596]): 409.

⁷⁰ Given the Jumano trade network I suggest it is unlikely the Teya did not have maize or flour, and rather more likely these items were secreted in caches as was common to Plains groups including the Taovaya-Wichita.

⁷¹ Nájera (2005[1596]): 465, [fol. 83v, 84r].

⁷² Jaramillo (2005[1560s]): 523 [fol.3v, line 8ff].

Coronado returned to the Teya ranchería. Again, the “Teyas willingly gave him other guides[.]”⁷³

Nájera wrote that the main party waited “there fifteen days, preparing dried [bison] meat to take [on the return]. By all accounts there must have been five hundred bulls killed there during those fifteen days. The number of [bulls] there without cows was an unbelievable thing.” Again this observation may have been made on the Llano above *Jimmy Owens* or on the *PDTR River* [Point: Bison Bulls]. Hunters routinely got lost which mystified Nájera who noted that “with that *barranca* being such that either upstream or down they had to hit upon [it].” Hunters were advised to wait until sundown and figure their direction ‘home’ from the setting sun.⁷⁴

Nájera reported that Coronado then spent “forty-eight days of travel” reaching Quivira because of the deceit of El Turco; this is not a credible number as we know they reached the *Arkansas* on “the day of San Pedro and San Pablo”, or June 29, 1541.⁷⁵ They had struck the first *barranca* about May 26th and then spent about a week in mutiny, looting, and parley. If Nájera had meant that the forty-eight days included all the time since meeting the Querecho it would make sense. Further, the common perception is that Coronado made this ‘dash’ with thirty horsemen; in reality he also took “half a dozen footmen,”⁷⁶ and it is inconceivable he was without priests and servants. The party was likelier to have had a hundred than thirty members and the daily march distances support this. Misreading singular statements like Nájera’s forty-eight day claim has led to flatly preposterous Coronado routes; some of which exceed two-thousand miles in length. Jaramillo wrote that they;

pursued our journey...always to the north for 30 days or nearly 30 days of travel. However they were not long days of travel...we never lacked water...[we were] always among the [bison] some days more than others, depending on the streams we encountered.⁷⁷

That they encountered more bison closer to streams is a useful observation and combats the notion that the Plains entire were carpeted with bison. Coronado related this trek in *despoblado*-like terms, although he did not use the word, and none of the sources mention any aboriginal camps or encounters. Certainly they encountered no Querecho. Coronado reported

⁷³ Nájera (2005[1596]): 410.

⁷⁴ Nájera (2005[1596]): 410-411.

⁷⁵ July 9, 1541 on our calendar.

⁷⁶ Nájera (2005[1596]): 410.

⁷⁷ Jaramillo (2005[1560s]): 515.

they found both bulls and cows en route.⁷⁸ Coronado also wrote they had many waterless days and that their fires used only bison dung as fuel; there was not a stick in sight away from the “rivers and streams, of which there [were] very few.” This country was obviously not along the treed lower *Arkansas*, but through the central Southern Plains. That they never followed a stream but crossed them is evidence again they were within the east flowing *Canadian River* system. Their transit was during late June/early July, and it was obviously high summer. The wet conditions of the intermountain and steppes did not extend onto the Central Plains.

Nájera reported seeing “many salt lakes” and that they encountered “some animals, like squirrels...very numerous. And a great number of their burrows,”⁷⁹ obviously prairie dogs. This was perhaps on the aptly named *PDTFRR*. Coronado himself wrote that at the end of “seventy seven days...I reached the *provincia* they call Quivira”.⁸⁰ Seventy-seven days from leaving Tiguex would mean they entered Quivira about July 10th. Using Jaramillo’s thirty days of easy travel, say ten miles per diem, they would have struck the lower bend of the *Arkansas* [11] about that date. In common with all argonauts but Pike they crossed the *Arkansas* to travel on the north bank above the sandy plains below. Jaramillo helps situate Quivira by noting that, after striking the *Arkansas*, they “traveled downstream...to the northeast” for three days before encountering outlier Indian bison hunters [12]. Sopete “called to them in their language,”⁸¹ a Caddo dialect. Coronado said he spent “twenty-five days both to see and ride about” Quivira.⁸² This means Coronado had [168-46=122] 122 days of travel in total.

The organization of Quivira was so rational that the Spanish presumed it had to have been a European import, and Coronado therefore wrote to the “governor of Harahey and Quivira, having understood that he was a Christian from the shipwrecked fleets bound for La Florida [as] the mode of government and the orderliness [*porque la manera del gobierno y policia que El*

⁷⁸ Vázquez de Coronado (October 20, 1541): 320.

⁷⁹ Nájera (2005[1596]): 412.

⁸⁰ Vázquez de Coronado, Francisco. Letter, “Holy Catholic Imperial Majesty,” 319-325. Richard Flint and Shirley Cushing Flint. *Documents of the Coronado Expedition, 1539-1542: “They Were Not Familiar with His Majesty, nor Did They Wish to Be His Subjects”*. Dallas: Southern Methodist University Press, 2005.

⁸¹ Jaramillo (2005[1560s]): 516.

⁸² Vázquez de Coronado (October 20, 1541): 321.

yndio habia]...led us to believe that.”⁸³ This is a reference to the 1528 Narvaez (Cabeza de Vaca) shipwreck. The Spanish mindset is interestingly revealed in this statement. That Coronado figured a hardy Spanish shipwreck-survivor could whip a thousands-strong ‘gang’ of aboriginals into European-style organization in just over a decade is both a breathtaking conceit, and an inadvertent compliment to the Quiviran culture.

Juan Jaramillo serves as an antidote to scholars who have taken the Coronado enterprise as evidence of massive aboriginal populations in Quivira. From Casteñada’s narrative some writers have presumed that the argonauts advanced through a solid mass of people for several days.⁸⁴ Jaramillo however wrote that

We travelled through them for four or five days, by which is to be understood that between one stream and the next was unsettled territory.⁸⁵

This statement also helps clarify the meaning of *despoblado* as the Spanish reads, “se Entiende [ser] despoblado Entre El Un arroyo y el otro[.]”⁸⁶ Jaramillo recalled six or seven settlements; the last, or eastern-most, had the largest population. With six or seven *pueblos* [Coronado’s language] spread along the river, perhaps Quivira Jumano/Wichita had a population of some five to ten thousand.

The joining rivers were “not with much water”, but featured “good riverside gardens.”⁸⁷ Jaramillo also provides a key environmental reference in that they packed “our supply of shelled green corn and dry corn so that we could return.”⁸⁸ As the Flints noted, this was the only reference to corn in the Coronado text. That they packed green corn and it was “nearly the beginning of winter,” is evidence of two annual maize crops, and a sophisticated agricultural scheme at work. Jaramillo thought Quivira a natural place for the plow:

⁸³ Juan Jaramillo, “Juan Jaramillo’s Narrative, 1560s.” In *Documents of the Coronado Expedition, 1539-1542*, edited by Richard Flint and Shirley Cushing Flint, 508-24. (Dallas: Southern Methodist University Press, 2005): 516; Spanish transcription at 522[fol.4r, lines 27-28].

⁸⁴ Colin Calloway wrote that Coronado “reported twenty-five villages.” Calloway. *One Vast Winter Count: The Native American West before Lewis and Clark*. (Lincoln: University of Nebraska Press, 2003): 141. Coronado meant not just Quivira but in Harahey and “all the rest” of the *provincias* northeast of the Arkansas he observed in some twenty days travel. Vázquez de Coronado (October 20, 1541): 320.

⁸⁵ Jaramillo (2005[1560s]): 516.

⁸⁶ Jaramillo (2005[1560s]): 523 [fol.4r, line 18].

⁸⁷ Jaramillo (2005[1560s]): 516.

⁸⁸ Jaramillo (2005[1560s]): 516.

I have not seen better [land] in the entirety of Spain, nor in Italy or part of France... As far as livestock goes, my knowledge is certain, because of the multitude [of bison].⁸⁹

Despite the relative poverty of description in the Coronado texts, it seems reasonable to consider Quivira a major agricultural centre circa 1540. Noting the extensive population and riparian 'gardens' along with two crop corn and stored foods, in addition to the Spanish rough compliments about Quiviran organization and housing, makes the case for a large population supported by agriculture in a static location. The Spanish mistook Quiviran agricultural expertise for the 'natural' beneficence of the environment and were incapable of seeing aboriginal trade systems, but the fact they were drawn to the place means it existed as an aboriginal trade and supply centre, and had done so for likely hundreds of years before Coronado.

Jaramillo wrote that in leaving Quivira they backtracked to where they crossed the *Arkansas*, and then headed out onto the bison plains. He noted the bison ate the short grass, leaving behind

a flax which the land yields; the stalks are separated from each other. Because the grazing animals do not eat it, it is left throughout... with its little head and blue flower.⁹⁰

⁸⁹ Jaramillo (2005[1560s]): 517.

⁹⁰ *Linum lewisii*, Wild Blue Flax. Grows throughout the Plains, reported along the Arkansas. Grows to 2 feet, intolerant of shade USDA "Plants Database, Online. <<http://plants.usda.gov>>. Accessed 19 October, 2010.



Figure 3.5. Blue Flax.⁹¹

The return journey was much quicker than the outgoing. Nájera wrote that they struck “the Río de Cicuyc more than thirty leagues below...the bridge which had been built on the outbound trip”⁹² [14]. This observation solidifies the case for the *Canadian River* route as opposed to the *Pecos* route; further evidenced by Nájera’s opining this river flowed to the “Río del Espíritu Santo”, or *Mississippi River*. It defies all logic to think that the Spanish would trek from the *Great Bend, Arkansas River* to Cicuye by routing across the *Llano Estacado*. At this time of year, late September and early October, the river valley had rose bushes, many grapes, and many other plants, evidence of autumnal rains.

In the Coronado texts we see the germ of the legend of the Great American Desert. October 20, 1541, a very bitter and defeated conquistador, Vázquez de Coronado, only days after returning from his massive and fruitless effort to find the treasure of the East at Quivira, made the impression the Great Plains were a great environmental desert:

⁹¹ Skoch3. “Photo of a Blue flax flower taken in Elena Gallegos Picnic Area, Albuquerque, NM.” http://en.wikipedia.org/wiki/File:Linum_lewisii,_blue_flax,_Albuquerque.JPG. Accessed 14 October, 2010.

⁹² Nájera (2005[1596]): 412.

To our Lord, that having walked seventy-seven days through those deserts to the province that they call Quivira. (a nuestro señor que al cabo de haber caminado por aquellos desierto setenta y siete días llegue a la provincia que llaman Quivira[.])⁹³

This is the only iteration of the term *desierto* found in any of the Spanish argonaut sources surveyed describing the Great Plains. *Desierto* was/is the geographical signifier for a ‘real’ desert. Interestingly the Flints, accustomed as are we all to today’s Great Plains, interpret this passage non-literally as “through those empty lands,”⁹⁴ meaning a *despoblado*. As the editors Flint noted, we will never know if Coronado used the term himself. The letter was in the hand of that of an “*escribo*, possibly his secretary, Hernando Martín Bermejo.”⁹⁵ Coronado would have dictated this letter to his scribe, who, in the convention of the times;

played a role in the composition of the documents they prepared. Generally speaking, they did not act simply to render into the script exactly, completely, and solely what their clients or employers had communicated orally.⁹⁶

It is unknown whether the scribe accompanied Coronado to Quivira and had first-hand experience of the Plains, however, he is not listed among the known members of the expedition.⁹⁷ Coronado “took a swipe” at Fray Marcos de Niza and his promises of golden cities; “there were none of the things [he] told about.” Critically, Coronado was describing the whole of the Plains venture and geography, from Cicuye to Quivira. Regardless of the term he dictated or the scribe chose off the ‘top of his head’, Coronado’s usage of desert clearly indicates his disgust and disappointment at the results of his journey, and does not geographically describe the territory he searched. Coronado himself wrote that the Querecho lived in “beautiful pasture lands of excellent grass,”⁹⁸ and that Quivira was favored with soil “most suited for growing all the crops [of Spain]...deep and black and having excellent water from streams, springs and rivers.”⁹⁹ Further, none of the other sources used this terminology, and indeed, I could not find an iteration of *despoblado* in their descriptions of the lands east of the Pueblos. Coronado’s use of the term *desierto* was a marker of disappointment and not an environmental judgment.

⁹³ My translation of the Flint transcription. Vázquez de Coronado (October 20, 1541): 324 [fol.1v, l. 45-50].

⁹⁴ Flint and Flint (2005): 320.

⁹⁵ Flint and Flint (2005): 317.

⁹⁶ Flint and Flint (2005): 317.

⁹⁷ See Appendix 3, “Known members of the Coronado Expedition.” Flint and Flint (2005): 605-615.

⁹⁸ Vázquez de Coronado (October 20, 1541): 319.

⁹⁹ Vázquez de Coronado (October 20, 1541): 321.

The primary sources for Coronado countered another myth of the Great Plains, that it was the Coronado and De Soto expeditions that introduced feral horses to the Great Plains.¹⁰⁰ First, it is simply not credible that of the some 600 horses taken by Coronado's group, mares and stallions escaped and populated the Plains. The historical record is full of examples of aboriginals consuming wayward horses. All the sources surveyed herein make clear that the horse spread from Mexico through New Mexico, thence north through the intermountain or east onto the plains. Secondly, as James Malin insisted, the "discovery by [A.S.] Aiton (1939) of the Coronado muster-roll...destroyed completely this convenient hypothesis[.]"¹⁰¹ Aiton found that only two of Coronado's men took "mares" with them.¹⁰² This is literally true that two argonauts specifically mentioned mares (*yegua*), however, *cavallo* was the term used in the roll, and *cavallo* means 'horse' and not 'stallion' (*semental*).¹⁰³ Nevertheless, it is logical that a military expedition would take only male or neutered horses as pregnant mares posed a logistical problem.¹⁰⁴ Aiton is not definitive evidence of the Spaniards' preference, but it is circumstantial for the first Mexican based argonauts preferring male horses. Settlers, of course, must needs have taken both genders of the animal with them to New Mexico.

Surveying all of the primary documents, much less the masses of secondary work on the Coronado Expedition to Quivira is well beyond the scope of this dissertation. However, a thorough survey of the documents listed herein show that Coronado did not find an environmental desert on the Southern Great Plains, but rather a productive centre for aboriginal groups. There is no question that the cultural presences of the Querecho/Apache, Teya/Jumano, and Quivira/Wichita were a great disappointment to the wealth-seeking argonaut. Equally clear is that settlement-minded argonauts like Jaramillo found Quivira at least to have been a near ideal place for agriculture. It would be Coronado's description and not Jaramillo's that would seize the imagination of later writers, *much* later writers. Coronado's letter would not enter the

¹⁰⁰ Clark Wissler: "It is generally considered that horses abandoned by De Soto's men in 1541 gave rise to the wild horses[.]" Wissler. "The Influence of the Horse in the Development of plains Culture," 1-25. *American Anthropologist* 16 (1914): 9.

¹⁰¹ James C. Malin. *History and Ecology: Studies of the Grassland*. Ed. Robert P. Swierenga. (Lincoln: University of Nebraska Press, 1984).

¹⁰² A.S. Aiton. "Coronado's Muster Roll," 556-570. *American Historical Review* 44 (1939)

¹⁰³ Juan de Cuevas. "Muster Roll of the Expedition, Compostela, February 22, 1540," 135-163. Richard Flint and Shirley Cushing Flint. *Documents of the Coronado Expedition, 1539-1541*. (Dallas: Southern Methodist University Press, 2005): 139/152.

¹⁰⁴ Plains Indian groups dealt with the problem of pregnant mares by riding them until they aborted.

English language until located and transcribed by George Winship in 1896.¹⁰⁵ Coronado did not then inform Pike or Long. It was not the Coronado Expedition that created the legend of the Great American. Neither did Coronado and his contemporary Hernando de Soto inspire Spain about prospects “in the interior of the continent, [and] Viceroy Mendoza, disillusioned by the meager results” of the argonaut expeditions, turned his attentions and Spanish efforts “to the sea.”¹⁰⁶ It would be forty years before argonaut attentions returned to the Study Area.

Chamuscado-Rodríguez [Gallegos Relación], 1581-82.

The Chamuscado-Rodríguez Expedition is also known by the name of the official journalist's report, the Gallegos *Relación*.¹⁰⁷ This was the first of several moves into *New Mexico*¹⁰⁸ from the silver lode in Chihuahua, specifically from Santa Bárbara. Motivated by news of aboriginal settlements to the north, Franciscan brother Augustín Rodríguez petitioned the viceroy at Mexico to explore and to proselytize these natives. Granted permission, some fifteen Spaniards led by the soldier Sánchez Chamuscado and Fra. Augustín Rodríguez, and including the notary Hernán Gallegos, traveled up the Conchos River to the *Rio Grande* (Rio Del Norte), in June 1581. This was the first expedition following a new set of royal guidelines under which

the old conquering expeditions were taboo, and it was practically necessary for entradas to be made under missionary disguise.¹⁰⁹

This riverine junction, previously visited by De Vaca, would after be known as La Junta.¹¹⁰ The Spaniards then turned north and began hearing of earlier argonauts they presumed to have been Cabeza de Vaca. From La Junta they explored as far north as *Taos*; for most of the way they were the Ur euramericans to see these lands. Because the Spaniards descended onto

¹⁰⁵ Flint and Flint (2005): 318.

¹⁰⁶ Iris H. W. Engstrand. "Seekers of The "Northern Mystery": European Exploration of California and the Pacific " 78-110. *California History* 76: 2/3 (1997): 83.

¹⁰⁷ George P. Hammond and Agapito Rey. "The Rodriguez Expedition to New Mexico, 1581-1582." *New Mexico Historical Review* 2: 3/4 (1927): 239-68; 334-62.

¹⁰⁸ The signifier New Mexico first appeared in print, I believe, in Obregón's *Historia ... de la Nueva Espana y Nuevo Mexico*, 1584, following the Gallegos *Relación*.

¹⁰⁹ Hammond (1927): 242. This helps account for Rodríguez' prominence in the planning and naming of the expedition.

¹¹⁰ Carl O. Sauer. *Seventeenth Century North America*. (Berkeley: Turtle Island, 1980): 38. Eventually, La Junta, TX.

the *Llano Estacado*, and therefore into the Study Area, their journey from La Junta was GIS mapped and analyzed as follows.

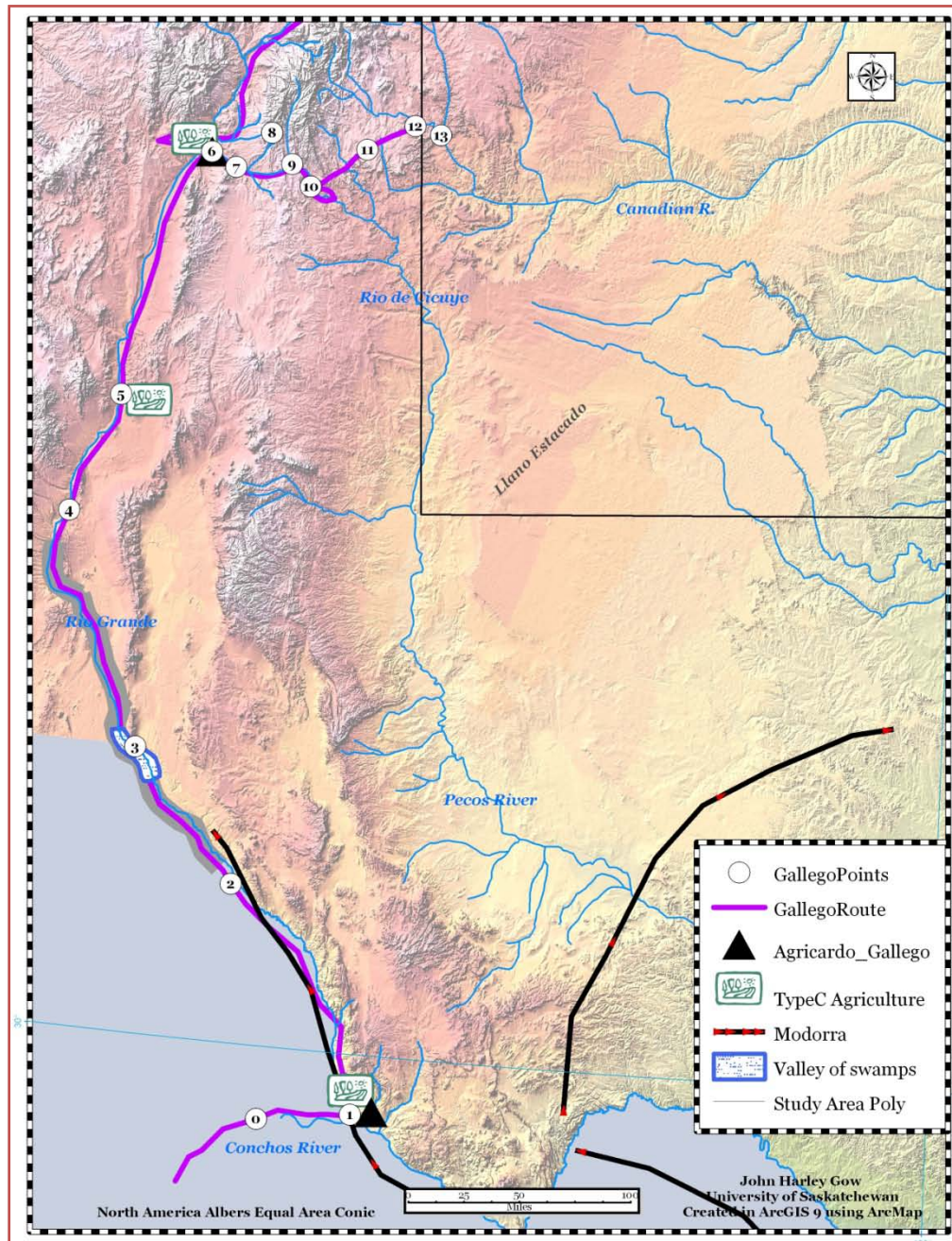


Figure 3.6. Chamuscado-Rodríguez Route.

On the Rio Conchas, east of the *Rio Grande*, Gallegos reported handsome and beautiful people who lived in houses made of paling, painted themselves with stripes, and had some corn

and quantities of “calabashes, ground mesquite, beans, prickly pears and mushrooms” [Point 0].¹¹¹ They carried “Turkish bows and very good cowhide shields.”¹¹² Gallegos was not of the same disposition as de Vaca and does not yield the same level of detail regarding Indian practice, regarding them as “naked and barbarous ... savage people.”¹¹³ Unnamed by the Spaniards, these people had all the cultural traits the Spanish would associate with the signifier “Jumano”. These Jumanos apparently did not hunt bison, but were related to those who did; neither were any signs of live bison seen to this point.

The expedition had until this point been marching through “seventy or eighty leagues¹¹⁴ [of] land ... all wretched, dry and unproductive, the worst encountered on the whole trip[.]”¹¹⁵

These lines and preceding text make clear that the party had been marching through the Chihuahuan desert, and that they would not encounter these same desert conditions as they neared the Study Area. Other clues from the text are that following the “striped people’s” advice the group travelled three leagues across land from the Conchos to “the largest river to be found in the Indies [Rio Grande].” This nicely coincides with the southward bend of the Conchos before striking the Rio Grande, and a logical route. This was the singular occasion where they figured “the latitude”, they “found they were at twenty-nine degrees.”¹¹⁶ Unfortunately Gallegos does not say how this reckoning was made but their position at that time on the Conchas was almost exactly twenty nine degrees.¹¹⁷

Upon striking the Rio Grande [1] they found a large pueblo with “eight large square houses inhabited by...over three hundred persons.” The river was the largest in “the Indies” with

¹¹¹ Hammond (1927): 255. This is the same location Cabeza de Vaca first encountered corn, identified above as the Jumano Agrigardo.

¹¹² Gallegos, Hammond (1927): 254ff. Turkish bow means compound bow, a great technological advance over straight bows. Hide shields were built from the hides of bull bison.

¹¹³ Gallegos, Hammond (1927): 256. This is an interesting conjunction since Gallegos had just praised these people, who would be later known as *Jumanos*, for their culture.

¹¹⁴ This is in concordance with the distance from Santa Bárbara, some 200 mi ‘as the crow flies’ or a more likely 250+ miles following the serpentine Conchos. Here and throughout, figuring the league at 3 miles as per Krieger (2003): 42-44.

¹¹⁵ Gallegos, Hammond (1927): 255.

¹¹⁶ Gallegos, Hammond (1927): 252.

¹¹⁷ Times Atlas, Mexico.

“valleys ... fine for the cultivation of anything whatsoever, for grain, trees, for ranches or cattle raising.”¹¹⁸ They made a unique observation here:

These people ... live in definite places ... a permanent settlement. [Their houses were built] on bases, and upon these they place timbers, the thickness of a man's thigh. Then they add the pales, and plaster them with mud. Close to them they have the granaries built of willow[.]¹¹⁹

That the Spaniards found the ‘three sisters’ here and facilities for storing produce indicates another level of agricultural at this Jumano town. The Jumanos had what Europeans recognized as ‘agriculture’; large plantings on permanent sites, crop surpluses, storage and infrastructure, all indicative of a high level of expertise and group organization.

The people possessed many hides, and many trade items;

A piece of copper...tied with some cotton threads...which an Indian carried about his neck[.] Another carried a copper sleigh-bell...they told us it was from the west[.] They called copper “*porba*.”...some of the Indians...carried white and colored coral...suspended from the nose; they also had turquoises.¹²⁰

These people also gifted the Spanish with *tunas*, *pinole*, and squash and “many of the things they had, feathers, tanned cowhides, deerskins and other things.”¹²¹ The conjunction of agriculture with surplus production and the demonstrated presence of various trade goods mark this site as a Jumano *agricardo*. The fact that these Jumanos knew of cotton goods to the north in the Pueblo but did not possess any indicates there was limited trade along that axis; the Pueblo could access bison products closer to and grew their own crops. *La Junta* *agricardo* then traded with the plains to the east and southeast, as it had when de Vaca was drawn here. The copper objects indicate trade relations with groups further to the west.

Here the Spanish were told of “many people” of high civilization to the north, and that they had heard about them “from the people who killed the cattle[.]” This echoes de Vaca’s experiences with the “people of the cows” and helps make the geographic case for his route as plotted above. Gallegos provides more direct evidence:

¹¹⁸ Gallegos, Hammond (1927): 257.

¹¹⁹ Gallegos, Hammond (1927): 256-257.

¹²⁰ Gallegos, Hammond (1927): 257.

¹²¹ Mesquite flour, discussed below.

We asked them if any men like us had passed that way, and they replied that a long time ago four Christians had passed through there ... we saw plainly and clearly that it must have been Alvar Nunez Cabeza de Vaca[.]¹²²

That there would be no more evidence of de Vaca's transit above this point, La Junta, also bolsters the case for this being the point where he resumed his westward progress, following the "natural" route of the Conchos [1].

The route of march now turned north following the Rio Grande. At two points after nine and eighteen days travel they found other small "nations" likely related to the La Junta group [2].¹²³ These people warned of warlike agricultural peoples ahead that spoke a different language. By the description the enemy others were Pueblo groups. Along the *Rio Grande* from La Junta to Valle de los Valientes [*El Paso*] they found no agriculture but rather great tracts of *despoblado*, or uninhabited lands. Accompanied to this point by hundreds of followers, these now melted away.

After three days of marching without seeing anyone, they reached "a valley of swamps, which extends over eight leagues" that while suited for crops or grazing was found uninhabited [3].¹²⁴ These observations back theories that the Pueblo/agriculturalist population was in decline, or had declined, at Contact. Referring back to de Vaca it seems likely that introduced diseases such as cholera/*modorra*, may have progressed this far north. This environmental description also makes clear that Cabeza de Vaca never reached here, now *El Paso*, from south or north as he never described such a singular environment. Gallegos notes that they here left the Valle de los Valientes,¹²⁵ and marched four days north. Finding "nothing", the party pressed on for fifteen days at which point they debated returning south. They had "traveled over seventy

¹²² Gallegos, Hammond (1927): 258.

¹²³ Point 2 is plotted as the mid-point between the two *rancherías*. The Jumano group or presence had distinct and separate but related cultural groups that ranged from plains bison hunters to house-building agriculturalists. Oftimes these different groups lived 'cheek by jowl'. This tendency seems unique to the Jumano.

¹²⁴ Gallegos, Hammond (1927): 258. Strangely they did not mention the fish here as would other argonaut groups. Perhaps they did not notice this resource in the absence of aboriginals and aboriginal usage.

¹²⁵ This group had a tendency to re-name both the river and the river valley as environmental markers changed. They accord the Rio Grande at least four names. This is a handy mapping tool as it helps map the route from topographical features. For instance, Point 3 / *El Paso*, the river takes a dog-leg and turns north through a constricted pass which would help differentiate two separate valleys.

leagues through uninhabited country [4].”¹²⁶ Here too, the *Relación* makes one of its rare references to weather events;

We discovered many people who...fled towards the mountains. While running after them such a heavy shower fell upon us that we were helpless and unable to make use of our horses.¹²⁷

This would have been about August 20, 1581 and here they ‘acquired’ an Indian guide who led them north through abandoned pueblos, further evidence of a population collapse in the agriculturalist people, to an occupied pueblo [5].¹²⁸ Also at this point, the party re-named the river the Guadalquivir, a name that would in the future be identified with the Rio Grande river valley. From this point on, in August 1581, they began to see large fields of corn, “like that of Mexico,” elaborate pottery and sophisticated houses.¹²⁹ This was also now territory “rudely used by the Coronado forays forty years earlier” as evidenced by the “headlong flight” of the pueblo residents before their progress.¹³⁰ The Piro had “fields planted to beans, calabashes, and cotton.” The Piro had large surpluses of crop foods and “crockery...of better quality than” that of New Spain/Mexico. Gallegos reported that they were now accompanied by an escort of some thousands of Piro men.¹³¹ The Piro pueblos, there were twenty in all, were likely home to some 10,000 people. They were then at war with the “nation” to the north. The Jumanos to the south also feared the Piro, and appeared not to trade with them. The Piro in 1581 were the southern gate-keepers to the *Rio Grande* Pueblo; groups to the south having disappeared by this time. The Piro pueblos were adobe-walled, and the houses were square adobes of 2-3 stories. Inside walls

¹²⁶ Gallegos, Hammond (1927): 261. They had covered seventy leagues in some eighteen days travel, a daily trek of approximately four leagues/twelve miles. This is a reasonable estimate considering all the sources surveyed. The Spanish traveled on horseback, but were always freighted with animals and Indian retinues on foot. This group wrangled “Six hundred head of stock, [and] ninety horses, provisions, and articles for barter.” Hammond (1927): 242. This also helps explain their reliance upon valleys and plains as routes, as “dense ridges ... were traversed only with great difficulty by our beasts of burden.” Gallegos, Hammond (1927): 254.

¹²⁷ Gallegos, Hammond (1927): 261.

¹²⁸ Hammond makes this out to be a Piro village near San Marcial. It is sometimes mystifying why the Spanish required guides to help them follow such obvious routes as “the largest river in the Indies.” All their sources had told them what they sought was further upriver. These guides were perhaps best thought of as cultural liaisons.

¹²⁹ Gallegos, Hammond (1927): 267.

¹³⁰ Sauer (1980): 38.

¹³¹ Gallegos wrote twelve thousand, another manuscript has it two thousand; the latter seems more reasonable.

were whitewashed and painted “with many monsters and other animals and pictures of persons.”¹³²

The expedition continued north, pueblo by pueblo, until late September when they arrived at a large pueblo, likely Santo Domingo Pueblo at *la junta* of the *Rio Grande* and *Galisteo Creek* [6]. Here Gallegos began to shed some light on the Study Area. The people of the Galisteo pueblos were Tigua Indians,¹³³ and their socioeconomic culture was integrated with all the surrounding peoples, including those of the nearby Southern Plains. The Tiguas made adobe houses and timbers of from two to five stories. Interpreting the Gallegos Relación, these buildings increased in size from east to west, so that the largest pueblos were located furthest from the plains on the *Rio Grande*.¹³⁴ These people had great surpluses of beans, corn, calabashes as evidenced by their ability to deliver to the Spanish “enough...every day to feed five hundred men”. Interestingly, men tended the “work of their corn fields,” while women tended to cooking, tortilla production, and making and decorating pottery and cotton clothing. The men wore “painted cotton pieces,” and the women “cotton skirts.” The pottery was “so good and fine...better than the ones made in Portugal.” Water and flour was stored in large pottery jars. Young girls ground the corn masa, and men carried the heavy burdens. The Tiguas kept large flocks of turkeys, up to a hundred in one flock, and also raised “small shaggy dogs”, likely for their ‘wool’ as well as protein. The dogs were kept in “underground huts.” The Tigua also consumed much “buffalo meat,” obtained by trade. They used various “metals” which they acquired locally and from “the Indians in the region of the cattle”, to the east.¹³⁵ This identifies Santo Domingo Pueblo as an agrícardo; an agricultural and trade pivot. Tigua culture was in fact so advanced the Spanish reckoned them “handsome and white.”¹³⁶

Who were the people of the cattle? Some intermediary groups were Jumano; “some of these people are striped.” The bison hunters, however,

were not striped ... they live on game and eat nothing except meat of the cattle during the winter; that during the rainy season they go in search of the prickly pears and dates; they ... have ... huts of cattle-hides; that they move from place to place; that they were enemies [to the Tigua and Jumano] but they also came to their pueblos with articles

¹³² Gallegos, Hammond (1927): 263.

¹³³ Hammond (1927): *n* 42 at 264.

¹³⁴ Gallegos, Hammond (1927): 265ff.

¹³⁵ Gallegos, Hammond (1927): 267.

¹³⁶ Gallegos, Hammond (1927): 267.

of barter, such as deerskins and cattlehides... and with a large amount of meat in exchange for corn and blankets[.]¹³⁷

The Jumano intermediaries were encountered at another Tigua pueblo they called “San Mateo/Malpartida” [7]. This was in a region of mines now known as Cerrillos. Here the Spaniards were told the hunters were two days to the east. It is presumed that these people were Querecho/Apache, and that this is likely the first encounter between Spaniard and Apache.¹³⁸ When the Tigua were asked why they lived so far from this resource they replied,

on account of the corn fields and cultivated lands, so that the cattle would not eat them, for during certain seasons of the year the cattle came within eight leagues of the settlement. [Also,] the Indians who followed the cattle were very brave people that they used many arrows, and that they would kill us.¹³⁹

The Jumano declined the Spanish offer of employment as guides to the Plains, and the Spanish were “too few to force them” to the lands of the cattle and “bad people”.¹⁴⁰ From the text the Spaniards said they left the “settlement and province of San Felipe” to head eastward to the Plains.¹⁴¹

¹³⁷ Gallegos, Hammond (1927): 267.

¹³⁸ All the sources identify the antipathy between Jumano and Querecho.

¹³⁹ Gallegos, Hammond (1927): 268.

¹⁴⁰ Gallegos, Hammond (1927): 268.

¹⁴¹ Gallegos, Hammond (1927): 334.

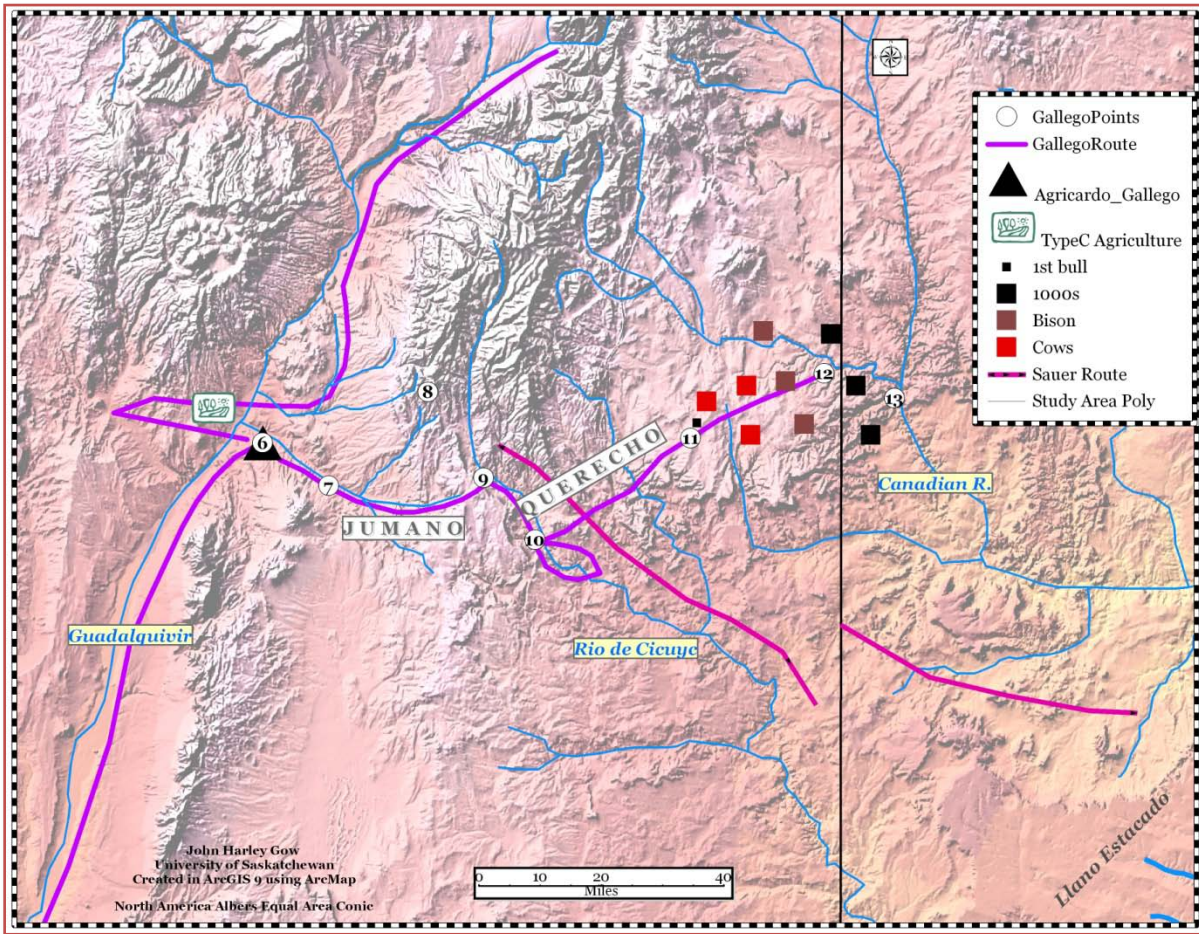


Figure 3.7: Chamuscado-Rodríguez Plains.

On September 28, 1581, the Spanish set out “in search of cattle” and marched six leagues through “plains with very good pasture”. They saw no sign of bison. On the 29th they passed over the “largest mountain that had been discovered in New Mexico”; they would have circumscribed rather than climbed *Thompson Peak* (10,554 feet) [8]. This is indeed by far the tallest peak one would encounter going up the *Rio Grande* from Mexico. This notation is significant and helps place their latitudinal position. Equally significant is that they did not enter or mention Cicuye, meaning they either crossed above this prominent steppe pueblo or below it. Since they report plains, it must have been below. They passed through groves of trees and stopped in rolling ground near water after five leagues. On the 30th they marched through plains for seven leagues, without water. The following day they found brackish water and rested. On

the 2nd they followed a declivity with pools down a grassy valley “suitable for sheep.”¹⁴² Here they found signs of humans and “many tracks of cattle.” The morning of the 3rd they struck the *Pecos River*, of “much [brackish] water and many trees;”¹⁴³ bison tracks here abounded [9]. They marched four leagues down the *Pecos* and found a ranchería of fifty hide tents and four hundred “warlike men with bows and arrows” [10]. The peaceful Spanish “gave them a cross to kiss” and when they refused “discharged and harquebus among them” in response.

These Indians, Querecho/Apache, said the plains ahead were covered with bison “as [numerous as] there was grass on the plain.” They were there on the *Pecos* “at this season” for the bison. These Indians had many “medium sized shaggy dogs” that carried leather packs in trains and could travel several leagues a day. Here the Spanish spent two days looking downriver for the bison, first without a guide, later they returned with one. The Indians had told them the bison were on the plains, but that they were reluctant to leave the *Pecos*, which flows south and away. Re-directed, the Spanish found a site with many lagoons and a view of a valley facing due east, “where the sun rises.”¹⁴⁴ They were upon the flats [11] where there exist many tanks, and at the edge of the *Mora* valley overlooking the *Canadian* breaks and river [12]. It was at these “plains and lagoons” on October 9th where the bison were found en masse;

Great herds and flocks of over five hundred head, both cows and bulls [...] There is such a large number of cattle that there were days when we saw upward of three thousand bulls. The reason there are so many bulls together is that at a certain season of the year the bulls separate from the cows.¹⁴⁵

The Spanish were told that in the

said [*Mora*] valley and its water extended to the [*Canadian*] river where the great bulk of the cattle roamed, which, according to the natives, cover the fields in astounding manner.¹⁴⁶

The Spanish decided not to go further however, and never saw the great herds [13]. Then on the 19th October they turned to re-trace their steps to the pueblos, having covered “forty

¹⁴² Gallegos, Hammond (1927): 335. A peculiarity of the text is that Gallegos always went “down” rivers, even when they were obviously going *up* the Rio Grande, for instance. Here, they were going “down” the Pecos then reversed direction to again go *down* the river.

¹⁴³ That it was the Pecos they crossed seems certain; *where* on the Pecos they crossed is the issue.

¹⁴⁴ Gallegos, Hammond (1927): 337.

¹⁴⁵ Gallegos, Hammond (1927): 337-8.

¹⁴⁶ Gallegos, Hammond (1927): 338.

leagues of difficult road.”¹⁴⁷ The Spanish found that their absence had been cherished, and their return to the pueblos resulted in a spiral of violence exacerbated by their utter reliance upon the Tiguas for food and shelter. The next chapter in the *Relación* begins, “Concerning how they desired to kill us[.]”¹⁴⁸

From the *Relación* it is often impossible to figure true directions of travel when they are away from identifiable rivers and valleys. However, in their excursion to the “cattle” the route as depicted above makes sense. It is clear that they never achieved the great plains of the *Edwards Plateau* or the *Llano Estacado*, as all those who did commented on the “great austerity” of those plains. Neither did they descend into the breaks of the Canadian, as those who would do so in company with stock and baggage universally complained about the difficulty of travel. Given the route description and what is known from later argonaut descriptions, they most likely settled for the steppes around *Las Vegas, NM* (see Data). This route is in slight contrast to that of Carl Sauer.

The remainder of the *Relación* has three narrative components. The first demonstrates how Christian cultural ethos in combination with European military superiority can totally alienate aboriginal groups. The second forms an excellent anthropological case-study or ethnohistory of the “Evil Practices of these people”, including accounts of snake rituals, marriage ceremonies, et cetera.¹⁴⁹ The third is a chronological inventory of pueblos, populations, potential sources of wealth including ores and slaves, and sites of likely resistance. As the remaining texts deal exclusively with the conquistadorian conquest of the Pueblo and do not directly concern the Study Area they are not further examined here.

The Gallegos *Relación* treats the last or return portion of the expedition in a rush as it is clear the small party had overstayed their welcome. On the “last day of the month of January [1582]” the Spanish, already part-way home, “determined to return quickly to Christian territory[.]”¹⁵⁰ Now following the west side of the Rio Grande, they encountered more pueblos and evidence that would spur interest in further expeditions: “mineral deposits were discovered.”

¹⁴⁷ ArcMap, Measure Tool; tracking the “Gallego Route” from Point 7 to Point 10 equals 115 miles, or approximately 38 leagues.

¹⁴⁸ Gallegos, Hammond (1927): 341.

¹⁴⁹ Gallegos provides an extraordinary description of Pueblo culture featuring much more gendered information than any other argonaut source.

¹⁵⁰ Gallegos, Hammond (1927): 357.

These silver deposits would later assay out to “twenty *marcos* per hundred-weight of ore.”¹⁵¹ Captain Chamuscado expired from some wasting disease en route, several days before the survivors reached Santa Bárbara on Easter day, April 15th. The report of ore and the loss of all the expedition’s Franciscans would arouse interest and suspicion in almost equal measure.

Note that the return journey, although supposedly undertaken with all haste, took the same three months as had the outgoing leg. Nowhere on the return trip did they complain of weather, in fact missing entirely from the *Relación* after the trip to the plains is any data relating to weather or environment. They noted water and trees in abundance at several points and good pasture at a few. At no time did they report lack of water or grass for their still numerous horses. Further, apart from the despoblado reported on their out-going trip, there was not one usage of the terms despoblado or desierto. This is a key point because this expedition would later be used by Eugene Hollon as evidence of a Great American Desert.¹⁵²

These argonauts displayed the usual concern with foodstuffs and security, but any knowledge of climate can only be glimpsed through their description of aboriginal practices. Their trip to the plains, for instance, preceded winter conditions. Given that all other argonauts mentioned severe winter conditions in the intermountain, Chamuscado-Rodríguez likely encountered a rare mild winter. There were no aboriginal complaints about crop shortages or failures; indeed there seem to have been surpluses of crops in the pueblos in 1581-82, indicating normal or superior warmth and moisture. The notes about girls grinding flour and the massive containers used for storage in autumn 1581 are further evidence of this.

There was no mention of bison sign until past the outermost pueblos. At this time, there were no bison at or east of the *Rio Grande River*. Indians at La Junta had commerce with Indians further out on the *Edwards Plateau* who hunted bison. Bison sometimes came within eight leagues of the Galisteo pueblos in the 1580s. Bison came as far as the valley east of Santa Fe. Quite likely the bison followed the low flat lands followed by the modern highway through *Pecos* and *Las Vegas*. This would mean they were likely seasonally upon the *Llano Estacado*

¹⁵¹ Gallegos, Hammond (1927): 361. The term *marco* means the “mineral deposits” were silver; a *marco* with the regent’s name appended would indicate gold. Twenty *marcos* per hundred-weight (*arroba*) meant each 100 pounds of ore would yield \$125 (USD, 1936). Haggard, J. Villasana *Handbook for Translators of Spanish Official Documents*. Austin: University of Texas, 1941.

¹⁵² W. Eugene Hollon. *The Great American Desert; Then and Now*. (New York: Oxford University Press, 1966).

and *Edwards Plateau*. The Plains Indians (Apaches or Jumanos?) hunted bison in dry season, “during the winter” and looked for “prickly pears” and other foods “during the rainy season,” meaning spring and early summer¹⁵³ Gallegos reports bison in great numbers in September and October on the Canadian River, but no sign of bison tracks near the pueblos. It is assumed then that when bison moved into the mountain passes and towards the pueblos, they did so in the winter. Logically the Apache / Jumano hunted bison when they were present on the western slope. But a later argonaut, Castaño de Sosa, contradicted this thesis.

Bison cows were spotted on the plateau, but masses of bison bulls were seen towards the Canadian River. Gallegos noted the bison’s tendency for bulls and cows/calves to segregate. Here the cows were close to the mountains and the bulls out on the *Canadian Plains* in October. It appears that bison cows and calves headed into mountain passes and riverine valleys as winter neared, leaving the plains to the bulls. There was no bison sign in the valleys below Santa Fe in September and October, but the Tigua/Jumano reported that bison still came within twenty miles of the Galisteo pueblos.

Apart from noting good grazing all along the Rio Grande – both through the autumn of 1581 and the winter of 1582 - one thing stands out in its absence; the Spanish occasionally complained of no water for a day or two, but never in their trip observed a shortage of grass for their mounts. They were never without their mounts. Remembering that they took “hundreds” of animals with them and often camped for days in one spot, this is significant evidence of adequate pasture throughout their travels, including their expedition onto the plains.

There is no mention of anything like a desert above or on the Rio Grande River. This is one area where the lack of the Spanish text is significant. Along the “river Conchas” in Chihuahua they noticed some poor areas and many groups harvested mesquite. However all along this river and the middle Rio Grande were many groups who practiced agriculture. It is clear that the population here was near-continuous but nowhere near the numbers of the inhabited pueblos. Gallegos used the signifier *despoblado*, in describing these areas. Corn was not readily available in conquistadorian amounts until the pueblos.¹⁵⁴

¹⁵³ Gallegos, Hammond (1927): 267.

¹⁵⁴ Language: some Spanish argonauts, such as Gallegos, referred to any aboriginal establishment including plains hunting camps as a pueblo. Others restricted the use of *pueblo* to the permanent log and adobe constructions of *New Mexico*. The term was used to describe both individual buildings (almost

With many of the principals of the expedition dead or remaining behind in what would now be known as New Mexico,¹⁵⁵ Gallegos presented his *Relación* to the Viceroy at Mexico in May 1582. Gallegos' report caused some excitement, and foster interest in further entradas. His reports of some sixty pueblos containing thousands of multi-storey houses would be interpreted as meaning a population of "some 130,000 souls" living in the upper Rio Grande valley; this population estimate inspired further Franciscan efforts. Further, he noted the ready access to the humped cattle, cotton, a great salina, and recognizable crops. Most interesting to laymen, no doubt, was that they had found

eleven prospects of silver mines and brought back samples from three, which the Viceroy had assayed and found to be rich.¹⁵⁶

News of a silver strike spread quickly, and it would not be long before other Spaniards trekked north towards the Study Area. New Mexico was now fixed sketchily on Spanish maps and firmly in the Spanish imagination.

The Chamuscado-Rodríguez expedition, or "so-called Expedition,"¹⁵⁷ remains a controversial entity. Given that the all the Franciscans on the journey were killed or left behind, and that there was a mutiny of the group's eight soldiers – accounting for eleven of the fifteen Spaniards who set out - what really transpired on the trip remains unknowable. Knowing that there was continuous friction among soldiers, priests and 'management' makes some of the suspect decision-making in abandoning promising explorations more comprehensible. Staring out at vast open plains might have been enough. They were a long way from home and frequently surrounded by thousands of hostile and suspicious locals; everywhere they went in the pueblos, the ghosts of the Coronado debacle remained. Nonetheless, the descriptions in the Gallegos *Relación* of weather, environment, bison, plains, and aboriginal hunting practices provide valuable information.

always multi-family and storey) and agglomerations of these. *Pueblo* means town, village, or mass of people. The Spanish word has a pejorative meaning in the sense of the mob, or the unwashed. It has come to stand for the city/agricultural Indian culture of the American Southwest. This writer uses the term capitalized to describe the culture and uncapitalised to describe adobe built towns.

¹⁵⁵ This naming indicates the Spanish had now mentally if not physically 'taken possession' of this region.

¹⁵⁶ Sauer (1980): 40.

¹⁵⁷ Fray Angelico Chavez. "The Gallegos *Relación* Reconsidered," 1-21. *New Mexico Historical Review* 23: 1, (1948): 1. Fray Chavez speaks in terms of the "martyrdom" of the priests, and may not have been the most disengaged commentator.

Far from expecting a great desert they went in search of souls and mineral wealth and would report back the existence of both. As far as the Study Area, they reported a great wealth in “cattle” and reported no problems with grazing or terrain. They warned that the “cattle Indians” (perhaps Apache) were very numerous and warlike. Strangely, there is no mention in the text of Quivira or Cibola. Ostensibly driven by the desire to proselytize the Natives, this group was ‘officially’ disinterested in legends of golden cities upon the plains. They eternally alienated the locals while stirring silver fever in Mexico; they also outlined a road map for those to follow.

Espejo, 1583

As Spanish officialdom debated a major return expedition, “effective measures were being taken by the Franciscan order and a private citizen.”¹⁵⁸ Antonio de Espejo, a Spanish entrepreneur, offered to finance and escort a Franciscan effort by Fray Beltrán to rescue the lost brothers. The Franciscans were a rogue creative force on the same order as Cortes or Coronado. Bolton notes that the Franciscan component was hotly contested; various factions proposed candidates.¹⁵⁹ This party would closely follow the tracks of the Gallegos Relación. The primary contribution of the Espejo Expedition was to establish the idea of a reputed “Lake of Gold” just to the north of New Mexico. Uniquely, Espejo led his small troop out onto the steppes and down the *Pecos River* on returning to Santa Bárbara. He thus became the first journaling observer of the southwestern limits of the Study Area. This journal is also a key document in considering the Jumano.

While there are several sources on the expedition, primarily reports or testimonies, the official journal was kept by Diego Perez de Luxán and assembled by Martín de Pedrosa, a royal notary who produced an official report, now in the Archives of the Indies, Seville, Spain.¹⁶⁰ “Diego Perez de Luxán’s Account of the Antonio de Espejo Expedition into New Mexico, 1582” is a revised edition of the original translation by Hammond and Rey of 1929; this is the primary

¹⁵⁸ Herbert Bolton, ed. “The Espejo Expedition: Introduction,” *Spanish Exploration in the Southwest, 1542-1706*. (New York: Charles Scribner's Sons, 1916): 164.

¹⁵⁹ Bolton (1916): 163.

¹⁶⁰ George P. Hammond, ed. *The Rediscovery of New Mexico, 1580-1594*. (Albuquerque: University of New Mexico Press, 1966): 153, *n*.

source used herein, referred to as Luxan (1966[1582]).¹⁶¹ Also consulted was the Herbert Bolton translation of Espejo's own account, "Account of the Journey to the Provinces and Settlements of New Mexico, 1583,"¹⁶² referred to as Espejo (1916[1583]). Incidentally, the dates differ as Luxan takes the departure date and Espejo the return date to identify the expedition. Bolton's source was the Spanish original document as published by Pacheco and Cárdenas, *Col. Doc. Inéd. (A)*, XV, 101-126, and *ibid* 163-189.¹⁶³ Neither source provides the day by day reportage that is ideal for mapping purposes, but the two sources together yield a wealth of cultural and environmental data that may often be fixed geographically with some precision. (See Appendix A for the data associated with the Espejo points).

¹⁶¹ Diego Perez de Luxan. "Diego Perez De Luxán's Account of the Antonio De Espejo Expedition into New Mexico, 1582." In *The Rediscovery of New Mexico, 1580-1594*, edited by George P. Hammond. Albuquerque: University of New Mexico Press, 1966[1582].

¹⁶² Antonio. Espejo. "Account of the Journey to the Provinces and Settlements of New Mexico." *Spanish Exploration to the Southwest, 1542-1706*, edited by Herbert Eugene Bolton. (New York: Charles Scribner's Sons, 1916 [1583]).

¹⁶³ Herbert Eugene Bolton, ed. *Spanish Exploration in the Southwest, 1542-1706*. (New York: Charles Scribner's Sons, 1916): 168, *n* 1.

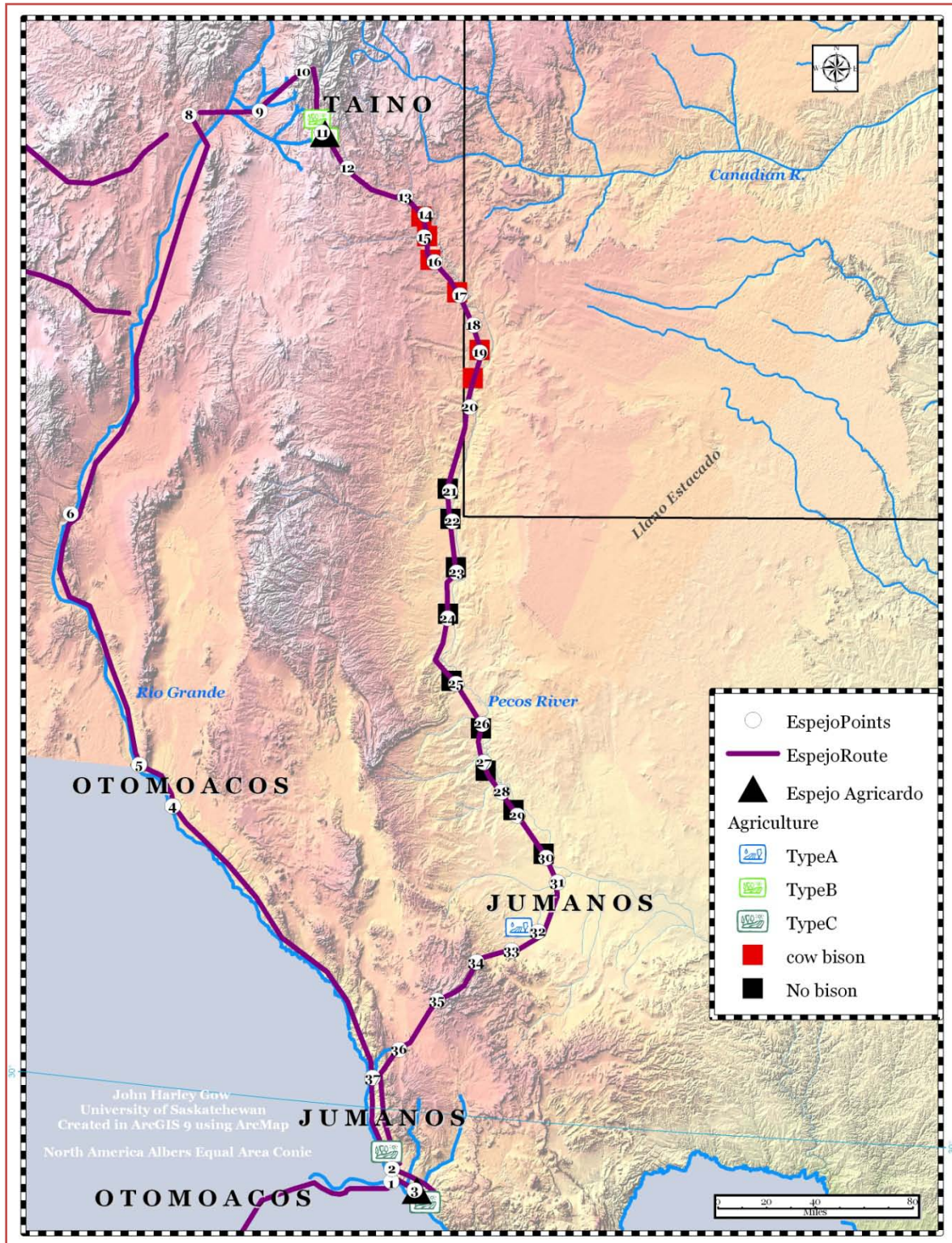


Figure 3.8. Espejo, 1583.

On November 10, 1582, a party of some fifteen soldiers and sundry priests and servants, conveyed by some hundred plus horses and mules set out from Santa Bárbara, *Chihuahua* for New Mexico [**Point 0**].¹⁶⁴ Santa Bárbara was the northernmost Spanish mining camp, located above the Conchos River. They descended to the Conchos River, and followed the tracks of Gallegos to the junction of the Rio Del Norte/*Rio Grande* [**1**], reaching La Junta December 9. Espejo figured the *Rio Grande* flowed into the Conchos River “which flows into the North Sea [Gulf of Mexico].”¹⁶⁵ At this junction they found a “nation...who call themselves the Jumanos[.]”¹⁶⁶ This was the genesis of the term Jumano. *Jumano* probably was an endonym meaning, “Us”, or “The People.” Jumano is from the Spanish “humano” or human. Who knows what the original Indian term was?

The Espejo journals’ depictions of aboriginal agriculture forced a re-evaluation of my praxis regarding the mapping of these factors. Espejo revealed a number of levels of sophistication in aboriginal agriculture, varying from the almost coincidental growing of squash to the construction of dedicated infrastructure such as irrigation ditches. The Jumano alone had groups which engaged agriculture at all levels from the simplest to very complex. Even for this one group there is no one model that describes their agricultural practice. This is an HGIS issue of great complexity that is complicated, rather than simplified, by the utter lack of statistical data provided by the sources. To visually provide at least a modicum of this complexity, this paper represents aboriginal agriculture as comprising three varieties ranging from the less to the more complex. Type A practice was the most basic of horticultural activities, such as a mobile *ranchería* growing and processing squashes.¹⁶⁷ Usually the journalists provided no other information than that they were given, or took, produce. They made no references to fields or observed agricultural activities; obviously there would be no storage facilities. Grown food is

¹⁶⁴ Santa Bárbara site from George P. Hammond (1966): 5. Google Earth. For expedition’s make-up see Espejo 1916(1583): 170.

¹⁶⁵ Espejo 1916(1583): 172.

¹⁶⁶ Espejo 1916(1583): 172.

¹⁶⁷ My position is that if a group practiced horticultural activities then they are recognized as being at a more advanced cultural level than pure nonsedentary hunter-gatherers. Sowing and tending beans is not ‘gathering’, but gardening/horticulture. John E. Kizca defines nonsedentary as living on “[lands] unsuitable for any kind of cultivation—deserts, plains [where] rugged peoples lived rudimentary lives based on hunting and gathering.” Kizca. *Resilient Cultures: America's Native Peoples Confront European Civilization, 1500 - 1800*. (Upper Saddle River: Prentice Hall, 2003): 29. Apart from de Vaca’s journey along the Gulf Plains, I found no such groups on the South Central Plains where groups *lived* in riparian valleys and seasonally hunted on the plains.

presumed to be a minor if still important part of the group's diet. This level describes Jumano camps close to the bison range, outliers of the main settlements.¹⁶⁸

Type B practice is defined as large-scale agriculture with a high level of sophistication, and some dedication to a specific site. Grown food provided a major part of the group's diet. In some cases this is indicated by permanent townsites or pueblos. An example is the Taino pueblos at *Pecos*. This model is broad enough to include some groups examined later, such as the Taovaya and Osage, who practiced large-scale agriculture, but also moved townsites periodically to allow for rejuvenation of soils, grasses and other resources.

Type C practice was sophisticated, large scale agriculture that involved the whole community, provided a majority of the group's diet, and included dedicated infrastructure. This is the level of commitment to agriculture displayed by groups such as the Hopi who had permanent cities, grain storage, and irrigation schemes. Perhaps most readers associate this level of agricultural sophistication exclusively with Pueblo culture during the Historical Period, but the Jumano towns at La Junta had large fields which may have been irrigated, and also contained houses built to shelter field workers during growing and harvesting seasons. These three models are simply portrayed on the following maps below as standard agricultural icons in an attempt to situate aboriginal agriculture visually.

The agricardo complex was built upon an agricultural platform. Type C and B agriculture provided the permanency of situation and caloric support for larger populations, which in turn allowed for the production of goods and services such as clothing, grown and processed foodstuffs, ornaments, containers, tools, and weapons. Later, horses and European trade goods were both drawn to and disseminated from agricardos. These convergences of agricultural surpluses and trade goods at permanent sites were a combination of town and fair, and extended what we commonly think of as Pueblo or Mound-builder culture onto the Great Plains.

Both writers were fascinated by the Jumano and offer much description. La Junta was obviously a key location for the Jumano as they had several rancherías and pueblos on both sides of the Rio del Norte within a radius of several leagues. The first, "San Bernadino," was on the east side of the river at the junction [2]. It was a "ranchería [resembling] a pueblo, as it was

¹⁶⁸ Archaeologist Ernie Walker observed the similarities between this model and that of the Hidatsa-Crow.

composed of flat-roofed houses, half under and half above the ground.”¹⁶⁹ This construction style links the Jumanos with Plains Caddoan groups the Taovaya and Pawnee. While the inhabitants had sensibly fled, they left behind material culture that included “corn, beans, mescal, dry calabashes, gourd vessels, buffalo hides, and Turkish bows and arrows.” Espejo described the Jumano as having

[t]heir faces streaked [striped], and are large, they have maize, gourds, beans, game of foot and of wing, and fish of many kinds from two rivers that carry much water. One of them flows directly from the north [*Pecos River*.]¹⁷⁰

Espejo found there were “five [Jumano] pueblos with more than ten thousand Indians,” primarily below La Junta [3].¹⁷¹ These groups were not all alike, having different dialects and material cultures: “Some of them live in flat-roofed houses, and others live in grass huts.”¹⁷² This was a cultural tie to the later Taovaya. These towns also knew of “three Christians and a negro”, confirming again the northern limits of De Vaca’s trek.

The Spaniards found the site environmentally appealing. Besides the fish and game, there were extensive fields so large they featured “houses...where they reside during harvest time”¹⁷³. These Jumano towns had Type C agriculture. The pueblos were located above the fields on ridges. The Rio del Norte here had “many damp islands and bays. Bison, *civola*, were “nearby”, but not encountered on the hoof or the plate. Nut trees, maguey, and many other food plants were found close by, as well as salines which solidified “at certain times of the year”; unfortunately the Spaniards did not specify the dry season. The Jumano wore cotton garments as well as those made of hides and “*Gamuzas* [buckskins].”¹⁷⁴ They remained in these towns for several days, alternating between gifting the locals, and threatening them. Several Spanish horses were liberated, and sundry Jumanos executed as a result. We do not know if these horses were recovered. At La Junta, agriculture was predominant and both adobe and pit houses were found; here too were the greatest populations. As they neared *El Paso*, there was no mention of pit houses and fishing and game predominated, populations were much smaller and scattered and

¹⁶⁹ Luxan (1966[1582]): 162.

¹⁷⁰ Espejo 1916(1583): 172-3.

¹⁷¹ The primary one named Q Bisise after its cacique.

¹⁷² Espejo 1916(1583): 173.

¹⁷³ Luxan (1966[1582]): 164.

¹⁷⁴ Espejo 1916(1583): 173.

there were no large pueblos. The only place that the ‘classic’ buffalo hunting Jumano with striped faces and living in tents were found was below and to the east of La Junta.

On December 17 they began the trek north, following the north bank of the great river. At points they named it El Río Turbio, as it was so muddy, and there was a great flow of water; “three leagues in the widest part.”¹⁷⁵ These descriptions seem confounding to readers who know the modern stream, now heavily utilized and diverted. They found many cottonwoods and willows in the valley, and fresh streams abounded.¹⁷⁶ The river was “lined with trees resembling the screw bean,” the tornillo or screw-bean mesquite. They encountered people all along the river and found, as had their predecessors, “a great number of people living near some lagoons”, the wetlands below *El Paso* [4].¹⁷⁷ Food here was so plentiful that most of that gifted to the Spanish “spoiled because the amount was so great.” The people at *El Paso* were of a different group, Otomoacos, previously encountered on the Conchos River. Here they fished with “small dragnets” and had quantities of mesquite and corn.¹⁷⁸ They apparently buffered the Jumano territory both to the north and west of La Junta. Regardless of the abundance of grown food, these sites clearly were not as organized as the La Junta towns, and are classified as Type B agriculture. Luxan made no reference to large fields or infrastructure. Again, “cows and native cattle [were] nearby”, but not seen; there were no bison on the *Rio Grande*, and “nearby” clearly meant ‘over the mountains’. The Spanish found the climate to be exceptionally hospitable. They encountered much salty soil along El Río Turbio, but the only salines were found at La Junta and *El Paso*.

Both journals describe the pass at *El Paso*, and describe the headlands [5]. Interestingly here they noted a clear break in populations, as had Chamuscado. Luxan also noted the lack of population and abandoned pueblos. The weather also changed dramatically, as on-January 22nd they had to “break the ice with bars and picks in order to get drinking water.”¹⁷⁹ It was winter in the *Rio Grande* valley above *El Paso*. Pressing on, Espejo wrote;

From the place of lagoons [we travelled] fifteen days ... without finding any people, going through country with mesquite groves, prickly pears, mountains with pine

¹⁷⁵ Luxan (1966[1582]): 165.

¹⁷⁶ Luxan (1966[1582]): 166.

¹⁷⁷ Espejo 1916(1583): 175.

¹⁷⁸ Luxan (1966[1582]): 169.

¹⁷⁹ Luxan (1966[1582]): 170.

groves having pines and pine-nuts like those of Castile, sables and cedars. At the end of this time we found a ranchería, of few people but containing many grass huts[.]¹⁸⁰

These people were outliers of the Pueblo, as within a few day's march they encountered "ten inhabited pueblos on the banks of this river...contain[ing] more than twelve thousand persons" living in houses of two to four stories.¹⁸¹

This paper does not address the Espejo journals above *El Paso* as they do not directly concern the Study Area. One exception is a geographic point that allows for fixing their travel distances and route with considerable surety. Espejo noted a "large black rock", most surely *Elephant Butte*, now partly submerged under the dam and lake bearing that name [6].¹⁸² One entry of interest is Luxan's calling two abandoned pueblos "Los Despoblados, because we found both pueblos deserted."¹⁸³ This serves as crystal clear clarification of the Spanish understanding of the term 'despoblado'.

Mapping Espejo in total would be a formidable task as the Spaniards, in theoretical pursuit of the missing monks, traversed hundreds of miles in going from pueblo to pueblo. They travelled as far as Hopi pueblo, now *Oraibi*, AZ (110°40'W 35°50'N) [7], searching for wealth.¹⁸⁴ In the interior mountains Type C agricultural communities abounded. From the Hopi pueblos, Espejo began making his way back towards *Zia Pueblo*, of the Tigua [8].¹⁸⁵ From earlier in the year the Tigua had been at war with the Spanish; Luxan reported "All the provinces trembled" at the second approach.¹⁸⁶ Aboriginal resistance was now so endemic that Espejo did not bother to mention this particular set of conflicts. They must have been severe, however, for the quality of reportage seriously diminished. Around June 27th, they reached the Tigua pueblos near modern *Santa Fe* after some two months of travelling warfare [9]. About June 30, 1583, they reached the northernmost point, the Taino pueblo at Santa Catalina [10].¹⁸⁷ Having exhausted their search for mines, they now turned their attention to searching for "the cows".

¹⁸⁰ Espejo 1916(1583): 176. Piñon pines, junipers and cedars [sabina].

¹⁸¹ Espejo 1916(1583): 177.

¹⁸² George P. Hammond (1969): 171, n 35. Google Earth.

¹⁸³ Luxan (1966[1582]): 176.

¹⁸⁴ Luxan (1966[1582]): 193.

¹⁸⁵ Luxan (1966[1582]): 204. Google Earth, ESRI Places. Zia Pueblo.

¹⁸⁶ Luxan (1966[1582]): 204.

¹⁸⁷ Espejo 1916(1583): 189.

On July 1 they headed south and reached an Atamues [Taino] pueblo they called Jumea. This was on the *Pecos River* just north of the modern town of that name. These people were “more bellicose than those of other provinces.”¹⁸⁸ I take this to mean that, as other Spaniards reported, it was the buffer people, or Taino, between the Pueblos and the Plains that had to deal with the aggressive bison hunting Indians on a regular basis. The Taino pueblos were of adobe and rose to three or four stories, well built, “as is characteristic of people astute in war.” The houses were terraced, “with wooden palisades in front of them as a defense in case of war.” The Taino had turkeys and corn, but the Spaniards made no special mention of agriculture; there were no great fields here. The Taino pueblos had Type B agriculture; clearly they produced a great amount of food, but agriculture was not their cultural mainstay. Hunted protein had much more importance to the Taino than to ‘true’ Pueblo groups. Perhaps because of this, women had a much different status than classic Pueblo culture;

The women are better looking than those of the other provinces ... [they] are not at all opposed to hiring themselves out to the men[.] In all these [Taino] provinces we found that the people are alike in this practise; that the men take whatever women they like and the latter the men they fancy.¹⁸⁹

This was in stark contrast to Espejo’s regular observations about Pueblo Indians having only one spouse.

Whatever the economic basis, this region was clearly fruitful, as a scant two leagues from Jumea was another great Taino pueblo, “Pocos”, with “over fifteen hundred warriors armed with bows and arrows.”¹⁹⁰ Here, *Pecos* gains its historical name [10].¹⁹¹ Again, but seven leagues further “the pueblo of Siqui ... must have contained about two thousand armed men” [11].¹⁹² This place, here named Cicuye, will figure heavily in this discussion. Espejo wrote that these three “very large pueblos...seemed to contain more than forty thousand souls.”¹⁹³ Travelers today in this region would be hard pressed to reconcile current realities with this massive population.

¹⁸⁸ Luxan (1966[1582]): 204.

¹⁸⁹ Luxan (1966[1582]): 206.

¹⁹⁰ Luxan (1966[1582]): 206.

¹⁹¹ Original meaning unknown, but quite likely from *poca*, New Mexican Spanish for ‘a little water’. This Pecos is upriver from the modern town.

¹⁹² This pueblo was called Cicúye and Cicúique by Coronado; he gave the name to the nearby river and the people as well. The fascinating chief Bigotes, who led Coronado to the Plains, had come from Cicúye. Herbert Eugene Bolton. *Coronado: Knight of Pueblos and Plains*. (Albuquerque: University of New Mexico Press, 1964[1949]): 180ff.

¹⁹³ Espejo 1916(1583): 189.

The region is today lightly employed as grazing land, and while it is certainly no dust bowl, it is hard to imagine how “forty thousand souls” managed to obtain sustenance here. In Espejo’s day these lands were surrounded by “a forest of pines, mostly juniper and white pines...laden with cones” containing pine-nuts. This was, however, one of the few places the Spaniards were not showered with gifts of food. The Taino refused to give the Spanish food, as they “did not have any, that there was a lack of rain, and they were not certain they would gather any corn.”¹⁹⁴ This is perhaps indicative of a Plains drought in 1582-83; certainly there was no evidence of drought in the intermountain.



Figure 3.9. Pecos Pueblo site, looking northwest.¹⁹⁵

Reduced by illness and fighting, Espejo’s command was unable to reduce the Taino to compliance, although they threatened to burn Pocos as they had other pueblos. The Taino did give the Spanish “food against their will” and two Indians were seized to “direct [the Spanish] to the buffalo.”¹⁹⁶ Fearing returning through the scorched earth of their outward trek through the pueblos, the Spanish now determined to follow the *Pecos River*. From Pocos they traveled south

¹⁹⁴ Luxan (1966[1582]): 206.

¹⁹⁵ The adobe pueblo was built upon this ridge, having sightlines for some miles in all directions. The ridge rises some 30 to 60 yards/meters from the grassland, and the entire site is in the Aztec fashion situated upon a large domed foothill or eroded mountain. Pecos River perhaps a mile/ 2 km to the east.

¹⁹⁶ Luxan (1966[1582]): 206.

on July 5th “six leagues through a very dense forest of white pines and juniper.”¹⁹⁷ They called the *Pecos River* the Río de las Bacas, reported that it had “very good water”, and had a park-like setting [12]. July 8th they struck the *Gallinas River* having made sixteen leagues since Pocos [13]. The Measure tool shows a distance of some fifty miles, making the ‘three mile league’ defensible. The next day, July 9, they found a saline and spent two days gathering “salt to season the meat” they hoped to procure. This is the first direct description of the Spanish method for curing bison meat. Pressing on July 12th they found “fine pastures and many water holes” and also much evidence of Indian bison hunting; “we found many goad sticks with which the Indians kill [bison].” Hereabouts they also found buffalo trails and many bones and skulls. Clearly this area was a regular bison-hunting ground [14]. The next day, July 13th, they made six leagues and struck a stream flowing east-west, most likely *Pintada Arroyo* near modern *Santa Rosa, NM* [15].¹⁹⁸ The next stop they made was four leagues to the south, from which point they travelled on July 16th. They spent four days near the site they called *El Rastro*, or ‘The Track’ [16]. On the 17th they evoked some pity in naming their campsite on the river *El Mosquitero* [17].

They were engaged in bison hunting and the curing of meat during this time. While Luxan gives no other evidence, Espejo wrote;

I named ...[this] river Rio de las Vacas, for travelling along its banks for six days, a distance of about thirty leagues, we found a great number of the cows of that country.¹⁹⁹

Translations of the two Espejo texts differ in whether they hunted “cows” or “cattle”, but all texts name the *Pecos* the “River of the Cows”. In many cases, the Spanish differentiated between cows, *vacas*, and bulls or cattle, *civola*. In July on the *Pecos River*, the Espejo Expedition hunted and processed cow bison meat. The Luxan text reveals that there were limits to these herds, however.

July 18th they camped at a place they named *El Mesquital* “because of the heavy growth of mesquite nearby”²⁰⁰ [18]. This is their first observation of mesquite on the road south, here small shrubs rather than the trees on the Rio Grande. They encountered some marshes the next

¹⁹⁷ Luxan (1966[1582]): 207.

¹⁹⁸ From the text and mileage. DeLorme *Colorado*; 33. Topology, Measure tool.

¹⁹⁹ Espejo 1916(1583): 189.

²⁰⁰ Luxan (1966[1582]): 20.

day and camped at El Carrizal, ‘the reeds’ [19].²⁰¹ July 20th they made six leagues and stopped at a place they called La Rancheria, a small outlier Jumano ‘town’, or hunting camp [20]. Given they stopped here three days, there had to have been food, grazing, wood and water present. Espejo said they had found bison “Six days [and] thirty leagues” along the river. Presuming that El Rastro was the starting point for bison, La Rancheria was at the extreme southern limits for bison. Both Espejo and Luxan note that from hereabouts southward, the bison resource disappeared;

On the twenty-fifth we continued ... In all this trip we did not find any buffalo, nothing but many tracks. Hence we came to a stop, greatly troubled by lack of food.²⁰²

They made this observation later, at [23], three days and some fifty miles south from La Rancheria.

Pressing on they reached an area of salty springs and streams, they called El Salado, now *Salt Creek Wilderness* [21].²⁰³ On the 24th they found a “bay near the river” after three leagues [22].²⁰⁴ He records “many marshes”, mosquitoes, salty waters, in this stretch. Given place names were now El Mosquitero [23]; El Mesquital [24]; and El Tunal, (prickly pear,) [25]; they were entering a more desert-like region. When they found an oasis with walnut trees and river fish on July 27 [26], it was “quite a treat.”²⁰⁵ The next day they again entered a stretch of mesquite before encountering prickly pear, then “a large stream, bordered by many walnut trees” which flowed from a sierra [27].²⁰⁶

By August 2nd [28], they had still encountered only bison “dung and bones, God willed that we should not see any buffalo.” They would march on to a big bend in the river and stopped to rest their exhausted horses several days [29]. The next day, August 6 1583, they found an extensive and “very dense [mesquital] stretching for more than a league” [30].²⁰⁷ They were now obsessed with food as nearly every observation or naming had to do with that subject consciously or unconsciously: mesquite, tunas, walnuts, fish, lack of bison. They had in fact long passed the southernmost bison on the “River of the Cows” in July, 1583. Since this point is

²⁰¹ Lowlands, lakes and pools around Fort Sumner.

²⁰² Luxan (1966[1582]): 208.

²⁰³ Luxan (1966[1582]): 208.

²⁰⁴ Now, Bottomless Lakes?

²⁰⁵ Luxan (1966[1582]): 208. Black River, NM.

²⁰⁶ Luxan (1966[1582]): 208. Delaware River, at the border with Texas.

²⁰⁷ Luxan (1966[1582]): 209.

at the southern end of the *Llano Estacado*, it is likely that in 1583 bison moved down the *Pecos River* seasonally, and that in hot weather they were not found in the southern reaches of the river valley. That the region was covered with prickly pear and mesquite is evidence that bison's preferred short grass regime was not dominant here. Possibly too the presence of Jumano rancherías nearby limited the bison range.²⁰⁸

On August 8 they encountered the first major Jumano ranchería three leagues off the *Pecos River* on *Toyah Creek* [31]; "This brought [them] no little joy, as men who had eaten nothing but pinole" for some days.²⁰⁹ August 11 they found another Jumano ranchería, and here made the first positive identification of aboriginal agriculture on the southern *Pecos River*; they were presented with "roasted and raw calabashes and prickly pears" [33]. There is no indication that the level of agriculture here was anywhere near the intensive level the Jumano practiced just ninety miles away at their Rio Grande pueblos. From here they made their way back to the *Rio Grande*, thence to Santa Barbara.

The Tanoan pueblo culture was as a bellwether for settled agriculturalist Plains groups generally. In 1583 these people numbered some forty thousand persons with perhaps six thousand citizen-fighters. They were at the peak of their cultural meridian and possessed enough might to be the only pueblo group that resisted the military might of the Espejo enterprise. These people and their culture were gone 200 years later by the time of Pedro Vial (1780s). Subsequent invasions by the Apache, Comanche, missionary settlers, sheep, and microbes reduced this culture to seventeen individuals who abandoned the Pecos Mission in 1838. Likely, climatic and environmental changes were also factors in the decline of the Taino. For the purposes of this paper, contrasting the Espejo reports of 1583 and the realities of today reveal the Taino lands to be literally a different world. Certainly these lands were in no sense a part of great desert.

Bison cows were found in numbers on the *Pecos River* above the *Llano* in July 1583. While bison sign was found throughout the *Pecos Valley*, no animals were found below [20]. If, as suspected, this Jumano camp was at the southern limit of the bison range in July, then 34° N latitude was the approximate limit of bison in this valley. Bison did at other seasons, or perhaps

²⁰⁸ Throughout the primary sources, it appears that aboriginal groups tended to live at the margins of, rather than on top of, primary resources such as bison range.

²⁰⁹ Luxan (1966[1582]): 209.

had prehistorically penetrated throughout the *Pecos Valley*. Clearly bison did not blanket this region-year round in 1583. The Espejo expedition did not report losing any horses on the Plains, although Jumanos stole some few animals on the lower *Rio Grande*. Grazing and water were then adequate throughout the journey.

Unsurprisingly, there was no evidence of aboriginal agriculture below the Taino pueblo Siqui [11], 35°30' N latitude and the Jumano ranchería at the head of *Toyah Creek* at 31° N latitude; the region where they reported mesquite and prickly pear. At the latter point, there was some limited agriculture, but no great fields. Pueblo culture as regards trade and agriculture did not extend below the Taino sites. The Jumano presence on the *Pecos River* did not have the wealth or established pueblos that Jumanos on the *Rio Grande*, although Espejo makes clear these were disparate groups of the same linguistic/cultural group or nation. Significantly, there was no Apachean presence in this region in 1583; the Taino occupied lands that Apaches would later secure, if in much lesser numbers.

The Espejo Expedition may have been one of the few Spanish enterprises that did not take a cataclysmic microbe with them. Neither of the journals, and this is highly unusual, mentioned sickness among its members. Many of the Spaniards were injured in battle and other misadventures, but no one died of illness. If so, this would make Espejo approaching unique in this regard.²¹⁰ Espejo also demonstrates that the preceding Chamuscado-Rodríguez Expedition may have also been relatively benign in terms of introducing pathogens. Following the same tracks as his immediate predecessors, Espejo did not report any depopulated areas not also mentioned in Gallegos. Further, Espejo does not report any concerns voiced by natives regarding sickness. Espejo also confirms that the despoblado, or uninhabited zone, above *El Paso* to the southernmost pueblos reported in Gallegos was not an anomaly. This region had lost its population by this time.

Apart from observing the Taino in situ, and the bison observations, Espejo's greatest value to this paper is the information on the Jumano. The Jumano were situated just to the east and south of the Pueblo peoples. Although Espejo does not discuss this, being in a relative rush towards home, it was the Jumanos who provided the bison resources to the pueblos. The fact that the Taino had heavily fortified towns indicates the relative military power the Jumano could

²¹⁰ If this impression is true I surmise that the Hispanic origins, as opposed to Spanish, of the participants meant they brought no new microbes with them.

assemble when required. These people managed to live successfully in widely differing environments, from the benign and fruitful mid-*Rio Grande*, to the mesquite steppes. Clearly there were Jumano groups that practiced the hunt and those who practiced intensive agriculture and built varieties of houses. These houses included adobe or stone pueblos of several stories as well as pit houses and grass houses. Some of the Jumano were of the famous striped or painted bison hunting sub-culture. There were three apparent mainstays to Jumano economic-political might and these were agriculture, bison hunting, and inter-group trading. These people did not disappear as legend and some historians would have it. Rather they later moved onto the plains away from Spanish presence and renamed Taovaya-Wichita.

Espejo returned to Santa Barbara “at the end of October, 1583.”²¹¹ He would spend the next few years lobbying unsuccessfully for a state financed expedition to conquer the lands he had observed. Neither the Viceroy nor the king was persuaded by his letters. Espejo had returned with nothing more concrete than a journal; no gold or silver as evidence of an El Dorado. Neither did he return with tales of a great wasteland of desert. Espejo neither encouraged nor discouraged anyone from following his path. Returning argonauts who did not report great wealth in gold and silver were presumed to be lying. Spanish interest in the still mysterious Study Area remained high, and the Spaniards who followed Espejo would be colonizers and not *conquistadores*.

²¹¹ Espejo 1916(1583): 192.

CHAPTER 4

The Colonial Approach: 1590-1638.

Castaño de Sosa, 1590.

Espejo was not the only Spaniard vying for sponsorship for expeditions to the new lands. Several individuals sought to be the first to secure the still undoubted mineral wealth of Cibola and Quivira. Some took the Cortesian example of illegal or unauthorized enterprises. In 1590, Castaño de Sosa, a governor of Nuevo Leon, reached the Pecos pueblos with a private entrada, conquered at least one, then fought his way to *Taos* pueblo.¹ John Miller Morris forthrightly labeled the 170 Europeans “an armed mob”², and the impact of Castaño on native sensibilities was instant and lasting. Castaño briefly established the first colony in New Mexico, but there he was arrested by a force sent by the viceroy. This argonaut may well have had a large role in the decline of Taino power and influence.

One unknown member of the Castaño enterprise, perhaps he or his secretary, wrote the report preserved in manuscript at Madrid.³ Castaño is largely un-mappable in that he took the ‘wrong’ route north; he uniquely followed the *Pecos River* missing the known way-marks, and he did not keep daily mileage, making it impossible to pinpoint most camps. Several authors have tried to figure this route, which commenced on 17 July, 1590, at Almaden, now *Monclova*, *Coahuila* [Point 0]. The commonly scripted scenario is that Castaño headed east northeast and crossed the *Rio Grande* somewhere near *Del Rio*, TX [1]. After an epic struggle dragging wagons over broken country, they struck the *Pecos River* from the east,⁴ somewhere near

¹ Herbert Eugene Bolton, ed., *Spanish Exploration in the Southwest, 1542-1706*, (New York: Charles Scribner's Sons, 1916): 200.

² John Miller Morris, *El Llano Estacado: Exploration and Imagination on the High Plains of Texas and New Mexico, 1536-1860*, (Austin: Texas State Historical Association, 2003[1997]): 138.

³ Gaspar Castaño de Sosa. “Report on the exploratory expedition to New Mexico undertaken on July 27, 1590, by Gaspar Castaño de Sosa while he was lieutenant Governor and Captain General of New León,” Edited by George P. Hammond, 245-295. *The Rediscovery of New Mexico, 1580-1594*, (Albuquerque: University of New Mexico Press, 1966).

⁴ Based solely on the text and not from any personal experience of the region, I concur with Dorothy Hull (1916) and Hammond that de Sosa crossed the Rio Grande below the mouth of the Pecos then turned north and west. See Hammond (1966): 216 n 6.

Sheffield TX, October 26, 1590 [2].⁵ This point makes sense of the travel narrative on the *Pecos*, the primary concern here.

Castaño makes a good complement to Espejo because of the commonalities and differences between the two. First they offer differing views of roughly the same terrain at roughly opposing times of year (December versus July). They also travelled from opposite directions, and under greatly different circumstances. Espejo was fleeing homewards with a small military group, and a minimal number of animals. Castaño was a settling expedition freighted with wagons, women and children, herds of domestic animals, and tons of gear and supplies. Castaño had been on the trail three months before reaching the *Pecos River*, and was suffering from lack of food and water. They would find no mid-point relief, as did argonauts going up the *Rio Grande*, as the lower *Pecos* was not an aboriginal agricultural area.

One issue in mapping de Sosa is attempting to figure distances. That they were settlers as opposed to argonauts meant their daily travels were greatly limited, and they also took many more rest days. Sometimes they appear to have rested every other day, repairing wagons and allowing stock to feed. Not all days are accounted for as they did not always note stops. This makes it impossible to tell which days were hunting days. Even when they did give a daily travel distance, say two leagues, it is impossible to map as they were forced to travel over land suitable for wagons and thus rarely took the ‘as the crow flies’ route of less encumbered groups. This is unfortunate, because de Sosa made a great many interesting environmental observations. The following discussion and map is much more an approximation of camps and other factors, and the approach followed was to site polygons depicting environmental factors rather than to chart campsites that simply cannot be sited with any surety.

Castaño’s reportage of aboriginal sites and actions is literally unbelievable as these colonists were engaged in slave-taking and trading at a level that outraged even other Spaniards in Mexico.⁶ Reading the journal without knowing its greater history, one might think Castaño was the most reasonable of argonauts in his treatment of indigenes, but this is far from the truth.

⁵ George P. Hammond, ed., *The Rediscovery of New Mexico, 1580-1594*, (Albuquerque: University of New Mexico Press, 1966). Sheffield is approximately the first location where those headed north could access the Pecos River; below this point the river is in a formidable canyon that could not have been accessed by Castaño’s wagons.

⁶ Nancy Parrott Hickerson. *The Jumanos: Hunters and Traders of the South Plains*. (Austin: University of Texas Press, 1994): 47. There is also a brilliant sub-plot here as Castaño was a Jew and appears to have been the target of individuals taking advantage of the Inquisition, then raging in Mexico as well as Spain.

This entrada was actively involved in slave trading for profit, but also acquiring slaves to labor on the proposed colony.



Figure 4.1. Castaño Route, 1590.

As noted, on October 26 they reached the Rio Salado, *Pecos River*, after crossing much difficult terrain. On the 28th they received news from an advance scout that they had found a Despeguan (also, Tepelguan) ranchería; these were Jumano people.⁷ The Jumano had “given” the scouts hides and skins, moccasins and meat, presumed bison, and promised to give the expedition corn and freedom to travel. However, on the 28th they reached “newly deserted rancherías” [3], presumed to be the aforementioned, establishing the pattern for the journey north. November 1st they encountered a small band of Jumanos travelling with dogs bearing travois, and “were all delighted at the sight of this novelty.”⁸ This was the only observation of this technology in these sources. November 2nd they were surprised to be attacked by the Jumanos at a river crossing; evidence the Spanish were not telling the whole story of their activities. November 5 they again found a “large newly deserted ranchería that must have had many people” [4], presumably they found food and grazing because they remained here for three days.⁹ If one did not realize that Castaño was a predatory slaving enterprise it would be easy to take this source as evidence of serious de-population in the Jumano world. Far more likely is it that the Jumano abandoned their sites in advance of the Spanish progress. This spot is mappable because the next day’s travel brought them to the first “extensive...fine plain” of their journey, presumed short grass from textual interpretation [5]. This plain was found in conjunction with “so much mesquite ...in groves...it spared us the need of slaughtering.”¹⁰

Now thought of as a scourge of ranchers and a sign of increasing desertification¹¹, the mesquite is a deciduous and leguminous native tree of the Desert Southwest, now spread as far north as *Kansas*. The tree takes its name from the Nahuatl, *mizquitl*. Dependent upon local conditions, mesquites range from shrub size to thirty-foot (10 m) trees. They are extremely hardy and drought resistant, having several types of roots including a tap root that can reach some 200 feet (60 m).

⁷ Castaño de Sosa (1966[1590]): 256. See Hammond, *n* 15.

⁸ Castaño de Sosa (1966[1590]): 258.

⁹ Castaño de Sosa (1966[1590]): 259.

¹⁰ Castaño de Sosa (1966[1590]): 259.

¹¹ Flores, Dan L. *Caprock Canyonlands*. 2nd ed. (College Station: Texas A&M University Press, 2010[1990]): 31, 62.

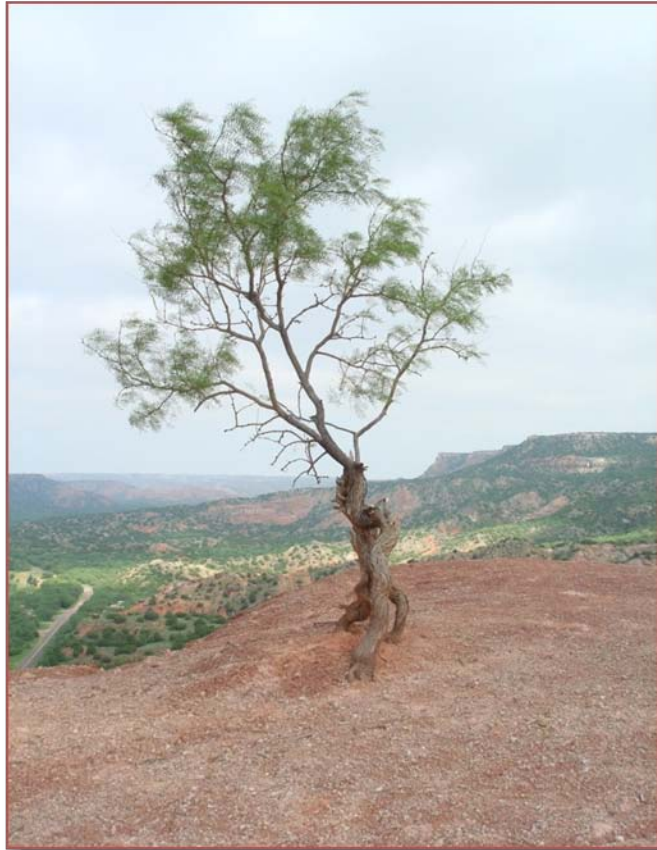


Figure 4.3. Honey Mesquite (*Prosopis glandulosa*).

They were noticed by argonauts for a few reasons; firstly they would most likely have been found en masse in conjunction with otherwise poor grazing, and secondly, they had extremely high value as a food source. Mesquite beans, (picture below) contain twenty per cent sugar, as well as proteins, carbohydrates, calcium and minerals. Dried, they can keep for several years and were used as fodder by drovers. Aborigines ground the beans to flour, *pinole*, and also made preserved sweets. Today the trees bloom as late as August and one genus (*Prosopis velutina*) blooms twice a year. That the Spanish reckoned mesquite could, at least short-term, replace their customary diet of grains and meat speaks of their high regard for the foodstuff. Of course, that they found masses of beans here meant that they had not been harvested by others.¹²

¹² The term *pinole* is problematical. Perhaps ‘coarse flour’ is the best meaning possible, regardless of what the flour was made from. If the original Spanish meaning was ‘coarse cornmeal’ it was applied by the Spanish to a number of aboriginal products including those made from mesquite beans, and piñon nuts

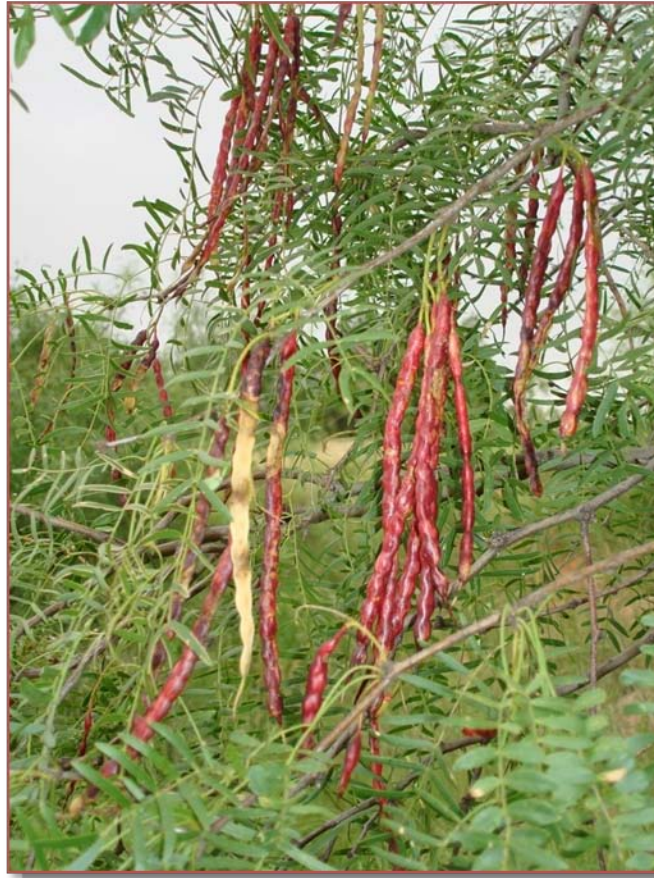


Figure 4.4. Mesquite beans.

They continued on encountering a mix of plains and “mesquite groves.”¹³ On November 11 still travelling on fine plains, they saw “many wolves” which attacked their animals.¹⁴ This observation is a rarity, not that wolves were. All later euramerican immigrant travelers would notice the vast number of wolves on the Great Plains, and particularly the Texas Plains. These animals were always observed in close proximity to herd animals, be they feral cattle, or elk, pronghorn, and bison.¹⁵ To this point, Castaño had made no mention of any sort of ‘wolf food’ in flesh or in sign.

from the pine tree common to New Mexico. From various primary sources; New Mexican Spanish meaning from Cobos (2003).

¹³ Castaño de Sosa (1966[1590]): 259.

¹⁴ Castaño de Sosa (1966[1590]): 259.

¹⁵ One example is Capt Clark: “I killed a Buck Elk & Deer ... Great many wolves of Different Sorts howling about us.” Near Chamberlain SD, September 15, 1804. Gary E. Moulton, ed. *Up the Missouri to*

On the 13th they made camp near a canebrake, the first reported. This sites them near the marshes around *Pecos TX* and *Toyah Creek* [6].¹⁶ On the 15th they came to “a bend in the river where there were many tracks” of bison [7]. Although they would see no animals on their trip, this was their first mention of ‘bison’ sign. This is made abundantly clear when on the 17th the writer noted that they were running out of “corn and wheat”, and were relying on “fish and mesquite.”¹⁷ November 20th they spotted smoke on a mountain four leagues away, situating them at the pass near *Carlsbad NM*. [8].¹⁸ Again on November 22 wolves attacked their animals at night killing “a goodly number of” goats [9]. The next day they found “a very large corral used by the Indians for enclosing cattle.” This was located near “where the sierra came to an end,” likely meaning it was near the pass or restriction. This corral was possibly a vestigial buffalo pound but more likely meant for the capture of elk or pronghorn.¹⁹ On the 24th the *Pecos* made a turn to the northeast [10] and they camped amid willows and grapevines and caught “the best...catfish [*bagres*]...we had eaten on the entire trip.”²⁰

On the 26th they crossed the river and would now keep it to their right, “before, it had always been to our left,” and entered fine plains [11]. Their description now places them in the valley around *Artesia NM*, where they “found a spring, the only one we had seen from the time we left the *Rio Bravo*.” The journalist here noted that it was beginning to get very cold at night. The next day they noted some dried out marshes and observed that “it had not rained here for a very long time.”²¹ On this entire leg of the journey they reported no precipitation, giving this observation added weight. It is possible that there was drought on the *Pecos River* in 1590. Recall that Espejo said that the Pecos Tanoans had reported drought in 1582-3. Perhaps drought was a factor in the observation of 30 November of “a very large abandoned ranchería.”²²

Fort Mandan. 13 vols. Vol. 3, *The Definitive Journals of Lewis and Clark*. (Lincoln: University of Nebraska Press, 2002): 55.

¹⁶ That they do not report crossing streams confirms they travelled on the east side of the river. They thereby missed many of the sites noted by Espejo.

¹⁷ Castaño de Sosa (1966[1590]): 260.

¹⁸ Castaño de Sosa (1966[1590]): 260.

¹⁹ This given the paucity of evidence for bison in any account, and there is no reason to suspect it was for feral horses. The test for the 28th provides evidence for the deer theory. Here agreeing with Hammond (1966): 261, n 21.

²⁰ Castaño de Sosa (1966[1590]): 261. Likely they cut across a dogleg ford and remained to the east of the river.

²¹ Castaño de Sosa (1966[1590]): 261.

²² Castaño de Sosa (1966[1590]): 262.

Historically, their time of transit falls in the middle of the lowest precipitation regime for the year; modern monthly precipitation for October to January at *Pecos NM* averages 9/10 of an inch (24 mm.) a month; easily the driest period of the year.²³

November 28 they saw “a great many deer on the plains [in] herds so large” [12] they could not be counted.²⁴ Perhaps these herds explain the corral seen on the 23rd. On December 1 they stuck a point [13] allowing for some surety in mapping:

We came to a river which seems to flow from a sierra rising toward the west, but we could not cross it as the water was too deep. We therefore turned east to cross the river[.]²⁵

Given the routes forward and back, this could only be the *Rio Hondo*. This point helps anchor other observations. They crossed the *Pecos* to the east side, and pressing on encountered swamps and wetlands [14]²⁶ December 4th and 5th they moved from swamps to sand dunes, on the 6th they traveled through, and spent the night on, “a field of tall grass” [15].²⁷ They managed to set fire to this prairie during the night, “a catastrophe ... if we had not made strenuous efforts to put out the flames.”²⁸ This fortuitous, and surprising mention of tall grass is bookended by two mappable points; the previous *Rio Hondo*, and another one day later when they noted “extensive cottonwood groves” at a site to become known as *Fort Sumner*, built to take advantage of this oasis [16 (34° 30' N latitude)].²⁹ Here they re-crossed the river to the west side, the unstated but likely reason to avoid the wetlands and multiple channels as the *Pecos* makes a big bend to the west. At this point they were long past the easily obtained tunas. For a time they also found no mesquite, and “in regard to corn, flour, or wheat there was none left”, and they were reduced to slaughtering one of the oxen they had so zealously protected to this point. November 8th and 9th they found “many groves” on the east bank of the *Pecos*, and on the latter day found

²³ Weather Channel, Online. “Monthly Averages for Pecos, NM.” <http://www.weather.com/weather/wxclimatology/monthly>. Accessed 1 September, 2010.

²⁴ Castaño de Sosa (1966[1590]): 261.

²⁵ Castaño de Sosa (1966[1590]): 262. DeLorme *New Mexico*, 41, 42.

²⁶ Accords with Bitter Lake Group. DeLorme, *New Mexico*.

²⁷ Castaño de Sosa (1966[1590]): 264.

²⁸ Castaño de Sosa (1966[1590]): 264. This was one of at least four reported instances, one of which sounds like an assassination attempt on Castaño de Sosa.

²⁹ The groves would also become known as the Bosque Redondo, forced home of displaced Navajo and Mescalero Apache (1862-65). The some 9,000 individuals soon outstripped the 40 acre reserves capacity.

abundant mesquite, without which we should have suffered greatly. The Lord always provided in time of greatest need; and not only the Indians, but all of us, men and women alike, ate mesquite.³⁰

This is one of the few mentions made of Spanish women in Castaño.³¹

This was just before the big bend of the *Pecos* [17] encountered December 10. They traveled over “very pleasant plains” for a day then crossed again to the west bank on 13 November [18]. Here they found fine plains and near the river “an extensive field of grass from which our people gathered large quantities of seed to be toasted and ground for food.”³² The next day they followed the river northwest, and again camped near the river in groves of trees and large fields of tall grass [19]. They would camp here several days. Due to their dire situation regarding food, they paid attention to foodstuffs they would normally have overlooked. December 13 and 14 [Points 18, 19] they found large fields of seed-bearing grasses. This might have been tall cool season grass; likely Wheatgrasses or Indian Ricegrass. Another possibility is that this was the grain Amaranth. Amaranth was an important component of the pre-Hispanic era at various pueblos, including Pecos.³³ Warm season grasses would have long since dispersed seed. This helps situate an area of tall-grass on the *Pecos River*.

Another intriguing aspect is that de Sosa is one of the very few journals to report fire or burned plains. They reported “traces of people and freshly burned plains.”³⁴ This observation was made by a scout December 12th, referred to an area twelve leagues in advance of the main party, and was made in conjunction with a total absence of bison in a region where cow bison

³⁰ Castaño de Sosa (1966[1590]): 265.

³¹ Castaño de Sosa (1966[1590]): 259.

³² Castaño de Sosa (1966[1590]): 265.

³³ Work on prehistorical and historical bone density from pueblo sites at Pecos and Gran Quivira reveals significant change over time in the diet of these outlier pueblos. See, Katherine A. Spielmann, Margaret J. Schoeinger, Katherine Moore. “Plains-Pueblo Interdependence and Human Diet at Pecos Pueblo, New Mexico.” *American Antiquity* 55, no. 4 (1990): 745-65. An unexpected adjunct from this work was that Amaranth was a significant element of the pre-Contact Pueblo diet. Amaranth was a significant food at Pecos Pueblo, as important as beans proportionally. Amaranth seeds contain up to 15 per cent protein, comparable to legumes. Further, amaranth is now harvested on the Plains after a heavy frost, making the timing of this mention feasible. Perhaps as it was cultivated by the Azteca the Spanish had a bias towards this admirable and drought-tolerant crop, as it virtually disappeared following Contact in the Southwest. “Grain Amaranth, A lost crop of the Americas.” Thomas Jefferson Agricultural Institute Online, <http://www.jeffersoninstitute.org/pubs/amaranth.shtml>. Accessed 24 September, 2010.

³⁴ Castaño de Sosa (1966[1590]): 265.

were reported by Espejo. This fire may be evidence of environmental firing by the Taino, but the best guess is that the fire was a defensive action by a group surprised by the Spanish.

December 20th they encountered a stream in a canyon and turned to the west [20]. On the 21st they marched over an “upward sloping plain”, and many felt they were hopelessly lost. Castaño reassured them they were but twenty some leagues downstream from pueblos, and this point as plotted is some eighty miles from the Pecos pueblos. December 21st they were reduced to butchering prized horses for food [21]. From this point scouts went ahead and engaged the Taino. They lost their weapons and armour and several Spaniards were injured. This began a great engagement as the starving Spaniards wrested temporary control of the Pecos pueblo during the final days of December, 1590.

Castaño gives a fascinating and detailed account of the assault on the Taino pueblo, of necessity briefly noted here. Taino women joined the men in trying to repel the Spanish; they both brought stones to the fortifications and then joined battle array, men as well as women standing fully prepared on the terraces and down below.”³⁵ The Taino response to the Spanish, which included newly built earthworks, was recognized as being extremely well organized; “such intelligence among barbarians seemed incredible.”³⁶ Taino organization was revealed to be centralized, with one “native captain” clearly in charge of the entire pueblo, at least “in times of war.”³⁷

The Taino took advantage of pueblo culture and proximity to the bison plains. Their multi storey plazas were connected by streets and tunnels. The Spanish were duly impressed, given the very cold weather, by sixteen large underground *etufas*; large chambers heated with braziers. The houses were communal, having “fifteen or sixteen rooms”, and every house was “equipped with facilities for grinding corn, including four grinding stones mounted in small troughs.” The Spanish never found storage *etufas* or large quantities of stored grain, although they had to have existed as in all pueblos. Given the presence of large winter surpluses and storage the Taino clearly had Type C agriculture. All the males wore cotton clothes and blankets, and each had a bison robe, again reflecting the December cold. The women wore cotton blankets with a sash and either another blanket or a robe of turkey feathers. These people,

³⁵ Castaño de Sosa (1966[1590]): 270.

³⁶ Castaño de Sosa (1966[1590]): 273.

³⁷ Castaño de Sosa (1966[1590]): 275.

presumably the women, produced beautiful pottery including red and black decorated bowls, plates, and cups.³⁸ The Spanish discovered great stores of firewood and lumber.³⁹ With the conjunction of food surpluses and obvious signs of extensive trade, this Taino pueblo was an *agricardo* in 1590. The Taino drew water from springs as the river, now styled the *Rio Salado* was too salty;⁴⁰ the river was “a quarter of a league distant.”

January 2, 1591 the Taino abandoned their pueblo, surprising the Spanish, because of “the bitter cold of winter, with its strong winds and heavy snows...Even the rivers were frozen.”⁴¹ Free to roam the houses, the Spanish removed “a little corn, beans and flour from each house ... twenty-two fanegas (60 bu.)⁴² in all.” January 6 the Spanish departed in search of “the mines”, and crossed a pass into what was likely *Santa Fe*. The rivers on both sides of the mountains were frozen so that laden horses could walk over them. This appears not to have been an anomaly in its time, as Espejo and Gallegos also encountered winter extremes. Today, frozen rivers in the region are unheard of.⁴³ On March 2 the Spanish would re-visit this pueblo having ‘conquered’ those around *Santa Fe*. They were surprised when the large population, now returned, did not flee at their approach. Rather, they were ‘given’ “as much corn, flour, and beans as we could carry.”⁴⁴ In mid-March Captain Juan Morlete and fifty soldiers caught up with Castaño and arrested him, ending this entrada as it was but beginning. As John Francis Bannon has written, this closed another unsuccessful running of the “New Mexico ‘Sweepstakes.’”⁴⁵ The first attempt to settle *New Mexico* had failed. The next, “bootleg” expedition, Bonilla-Humaña 1593, would end in even more disastrous fashion.

³⁸ Castaño de Sosa (1966[1590]): 278.

³⁹ Lumber was apparently available for anyone who wished to build a house. Unfortunately the Spanish did not discuss the countryside. Had decades of this intense lumbering denuded the landscape around Pecos? It must have.

⁴⁰ It is unclear if they knew this was the same Pecos they had been following; this could be just a Spanish naming issue. They had approached Pecos pueblo from the plains east of the Pecos River, and is remotely possible they thought they were on a different stream.

⁴¹ Castaño de Sosa (1966[1590]): 279.

⁴² A fanega is a dry measure just shy of three bushels. In another context, .8.8 acres of land. Rubén Cobos,, ed. *A Dictionary of New Mexico & Southern Colorado Spanish*. rev. ed. (Santa Fe: Museum of New Mexico Press, 2003).

⁴³ National Oceanic and Atmospheric Administration: Climate Services. “Past & Present Climate,” <http://www.climate.gov/#dataServices/pastPresent>. Accessed September 2, 2010.

⁴⁴ Castaño de Sosa (1966[1590]): 289.

⁴⁵ John Francis Bannon. *The Spanish Borderlands Frontier, 1531-1821*. (Albuquerque: University of New Mexico Press, 2001[1970]): 34-35.

The Jumanos were located at the southern edge of their territory as per Espejo. Jumano presence above 31°05' N latitude [*Iraan TX*], was much diminished since Espejo. There are some indications this may have been due in part to drought conditions, also, the rapacious smash and grab tactics of Castaño certainly helped clear the rancherías before their approach. No occupied rancherías were discovered after the first encounter, but there were signs of recent Jumano presence at some points. References to fleeing Indians and signs of panicked abandonment abound in this text. The Pecos pueblos were found armed and belligerent, and Castaño fought his way through these pueblos, who had some experience of Spanish methodology from Espejo. Castaño contributed to a weakening of the Jumano structure and presence, and the Tanoan people sustained a serious blow. That there was no Jumano presence in the Pecos valley in November-December 1590 could possibly be an indication of the ravages of argonaut induced disease. However I think there are more prosaic explanations, enunciated below after consideration of the bison regime.

Taino presence at the Pecos pueblos was undiminished in 1590, although Castaño never attempted a census at any point of his travels. Given that he returned to Mexico a prisoner, he may well have glossed his impact on the Pecos pueblos. It is very difficult to reconcile his December siege, firing and looting of the pueblo with his March visit in which he proclaimed the Taino hale, hearty, and happy to see him. Most likely Castaño had a deleterious impact on the Taino, the easternmost outliers of Pueblo society. However, it cannot be presumed that the cumulative Spanish reduced or seriously diminished either Jumano or Taino presence. If anything, the Taino appeared in 1590 to be better organized and prepared to deal with Spanish intrusions than they had been in 1583.

There were no bison on the *Pecos River* in November and December of 1590. This is in stark contrast to Espejo, who reported cow bison in droves on the upper *Pecos* in July, 1583. Further, there were no bison to the southeast of the *Pecos* in Mexico. The Spaniards spotted bison sign just below the *Llano Estacado* (103°50' W 31°55' N) and none above this point. Combined with Espejo, I posit that by 1590 bison did not graze on the middle *Pecos River*, but that they were still found seasonally on the *Pecos* above and below the *Llano*. Buffalo sign was found in conjunction with mentions of plains, presumed short grass.

Considering bison in conjunction with Jumano presence, it is likely that the first explains the latter. From Gallegos we know that the Plains Jumanos hunted bison in dry season “during

the winter”, and looked for “prickly pears” and other foods “during the rainy season.”⁴⁶ Both Gallegos and Espejo reported great numbers of bison in summer and autumn on the *Canadian River* great bend, and it seems likely bison pre-historically moved into the mountain passes and towards the pueblos in the winter. Castaño proves this wrong in historical time. The *Pecos River* valley and the *Canadian River* great bend were devoid of both bison and Jumanos in early winter. The *Pecos* rancherías were then deserted not entirely because of Castaño’s brutal advance. Presumably bison at this time of year retreated back out onto the Plains and away from the southwest, and the Jumano had deserted their townsites to follow them. Later evidence suggests this retreat may have been permanent.

Horses and cattle had yet to become a presence on the approaches to the Southern Plains in 1590. Judging by the number of domestic animals, horses, goats and oxen, which went astray or were stolen on their march up the *Pecos*, Castaño may likely have contributed to the introduction of horses and cattle to the Southern Plains. Equally likely is that the missing animals merely fed the wolf population, and the Jumanos.

It is surprising how many small ecotones they observed along the *Pecos River*. Tunas grounds, mesquite thickets, willow stands, short grass plains, and tall grass prairies were interspersed with swamps and sand dunes all along the river, a stretch of some 225 miles (380 km). There was no one region of plains or desert, rather a clutch bag of small interconnected biomes. This is a variation in *reported* biomes that was not duplicated in any other argonaut record; this is in small part due to the quality of this record in noting variations. To complicate matters, the plant regimes observed did not follow a straightforward pattern; both tunas and mesquite were observed in the northern half along with prairies and plains. While short-grass plains were observed at 31° N latitude, tall grass was restricted to above 34° N latitude. This pattern calls to mind the work of Jared Diamond, here much simplified to the generalization that plant, animal and human dispersals tend to follow an east-west axis based on purely ‘natural’ factors such as climate.⁴⁷ The southernmost desert-like region differed substantially from the

⁴⁶ Gallegos, Hammond (1927): 267.

⁴⁷ Diamond, Jared. *Guns, Germs, and Steel: The Fates of Human Societies*. (New York: W. W. Norton, 1999 [1997]): 189, ff. Diamond found the germ of his idea in his mentor Edward O. Wilson’s work. Wilson started looking at ‘social insects’ (ants) in the 1950s, and then expanded outward to consider human environments. This work also links thematically with that of Alfred Crosby, *Columbian Exchange*

northernmost plains/foothills. However, the complicated middle section wedged aspects of both regimes. This would help account for the amorphous frontier and organizational flexibility of the Jumanos. The middle *Pecos* valley apparently did not support intensive agriculture; this limited the Tanoans whose culture was based on Type B agriculture. Likewise the Jumano groups who did practice intensive agriculture were restricted to the *Rio Grande* valley. Certain Jumano groups utilized the middle valley for hunting and gathering, and perhaps very limited agriculture; otherwise there was no large scale settlement of the Pecos valley. Pueblo culture never embraced this valley below the Pecos pueblos. I presume that this was because of macro scale climatic factors. Think of the *Pecos River* valley as a bony finger of semi desert prodding the southwestern corner of the Great Plains Study Area.

In 1593 Bonilla and Humana led another illegal enterprise, establishing a base in the pueblos before striking out for Cibola, where the “real” cities of gold were to be found. This party made it onto the Plains above the *Arkansas River*, perhaps on the *Platte*, where they were slaughtered by likely Pawnee.⁴⁸ Surviving scraps of intelligence and a declaration by the “Indian Jusephe” have made this incident somewhat of a historical cottage industry.⁴⁹ Humana is completely un-mappable, and shows that on occasion organized Indian actions could trump euramerican arms and intentions. Several other enterprising Spaniards were arrested before they could emulate Humana.⁵⁰ The first effective argonaut to reach the study area was sometimes styled “the last conquistador”;⁵¹ in reality he was the first successful colonist. Juan de Oñate would conquer, organize, and govern the territory of New Mexico.

(1972), et cetera. See, Edward O. Wilson. *Nature Revealed: Selected Writings, 1949-2006*. (Baltimore: The Johns Hopkins University Press, 2006).

⁴⁸ F. Todd Smith insists these were the Wichita; I was not convinced. Smith, F. Todd. *The Wichita Indians: Traders of Texas and the Southern Plains, 1540-1845*. (College Station Texas A&M University Press, 2000).

⁴⁹ For a translation of this declaration, made to Juan de Oñate six years after the fact, see “Account given by an Indian of the Flight of Levy and Humana from New Mexico,” 323-6, George P. Hammond, ed. *The Rediscovery of New Mexico, 1580-1594*. (Albuquerque: University of New Mexico Press, 1966).

⁵⁰ Bolton (1916): 200.

⁵¹ Marc Simmons. *The Last Conquistador: Juan De Oñate and the Settling of the Far Southwest*. (Norman: University of Oklahoma Press, 1991).

Journey to the East: 1599-1601.

In 1595 after years of illegal entradas, the official settlement of New Mexico got under weigh, slowly, when Don Juan de Oñate was awarded a “contract for the conquest and settlement of New Mexico[.]”⁵² Arriving in New Mexico in late 1598, it took Oñate three years to pacify the pueblos, and be convinced they had no great store of mineral wealth. An encounter with the “Indian Jusephe”, or Jusepe Gutiérrez, convinced Oñate that the cities of gold must be ‘further on up the road’ in Quivira. Oñate provides one important environmental contribution in revealing that when he arrived in New Mexico he found no horses there.⁵³ Any animals left or lost by previous argonauts had not survived. This helps date the arrival of the horse to 1600, the earliest possible date. This fact should have a sobering influence on figuring horse population on the Great Plains and emphasize the speed of the horse’s diffusion north and east from New Mexico. That diffusion was obviously very rapid, and cannot be accounted for without figuring human agency.

Oñate also established sheep as livestock for the Pueblo peoples. Shortly after 1598, the Navajo to the north adopted sheep as a basis of their economy.⁵⁴ Sheep proved to be a radical innovation in the Pueblos and to the Navajo: women owned the animals and both herded them, sheared them, and wove the wool. Mutton soon became a staple;⁵⁵ making traded bison meat less of a necessity. Wool cloth also replaced cotton cloth which destroyed Pueblo cotton raising and trade. This one animal had tremendous repercussions on the aboriginal trade networks of Pueblo and Plains both, and a formidable environmental impact as well.⁵⁶ I have seen no specific records of sheep in Apache lands on the Steppe, but it seems logical that the animal would have been as useful to settled agricultural Apache groups as they were to the Navajo.

⁵² Bolton (1916): 201.

⁵³ Francis Haines quoting *The Memorial of Fray Alonso de Benevides, 1630*. Translated and edited by Mrs. Edward E. Ayer (Chicago, 1916). Francis Haines. "Where Did the Plains Indians Get Their Horses?" *American Anthropologist* 40: 1 (1938): 112-17.

⁵⁴ R. Douglas Hurt. *Indian Agriculture in America: Prehistory to the Present*. (Lawrence: University Press of Kansas, 1987): 57. This is a useful book, which devotes 80 pages or so to Indian agriculture before the reservation. Still, its strengths lie in the post conquest or modern era.

⁵⁵ Ruth M. Underhill. *The Navajos*. (Norman: University of Oklahoma Press, 1956): 33ff.

⁵⁶ For a look at the impact of this introduced animal on highlands in Mexico see, Elinor G.K Melville. *A Plague of Sheep: Environmental Consequences of the Conquest of Mexico*. (Cambridge: Cambridge University Press, 1997).

By September 1599 Oñate's pacification of the pueblos had advanced to the point he began to search elsewhere for sources of wealth. The Spaniards had also stripped the pueblos of food, engendering rebellions and making bison meat "an easy way"⁵⁷ to remedy food shortages at San Juan. While Coronado and the later argonauts had dimmed Spanish hopes for finding wealth in New Mexico,⁵⁸ the notion of golden cities to the North had not yet been disproved. Curious about Gran Quivira and its approaches, Oñate commissioned his nephew, *sargento mayor* Vincente de Zaldivar [Saldivar] Mendoca, with finding the "main body of the cows": in this he was successful. He was less lucky in bringing the cows back to San Juan. Mendoca's efforts are briefly examined here as a component part of Oñate's larger enterprise. The *sargento mayor* kept no diary, but his report was scribed by secretary Juan Gutierrez Bocanegra on Mendoca's return; no maps were produced.⁵⁹

Mendoca, 1599.

Mendoca is difficult to plot, as it never discusses direction and rarely mentions identifiable landmarks after leaving the Pecos River. For instance they reported none of the critical riverine junctions. Without question, however, they set out for the Great Plains, and found them. They were guided to the bison plains by Indians familiar with the territory, often noted cottonwoods, and never reported a lack of water; ergo sum they likely paralleled the *Canadian River*. There is no indication they skirted the river to the south.⁶⁰ Bolton's notes express a surety of direction and distance that is not warranted from the text. The following plot was constructed from the few definite river mentions, distance travelled, and the presumption they travelled east in the most direct fashion utilizing the water, shelter, and grazing offered by the *Canadian Valley* (Figure 4.5).

⁵⁷ Simmons (1991.): 124.

⁵⁸ Hickerson, Nancy Parrott. *The Jumanos: Hunters and Traders of the South Plains*. (Austin: University of Texas Press, 1994): 51.

⁵⁹ Bolton (1916): 223, *n* 1.

⁶⁰ I reject the assumption of Nancy Parrott Hickerson that they remained "south of the Canadian." Hickerson (1994): 51. Mendoca observed the "Indian herdsmen" crossing the Canadian and likely did so as well (226). Bolton shows them making a bee-line due east in the 1916 frontispiece map.

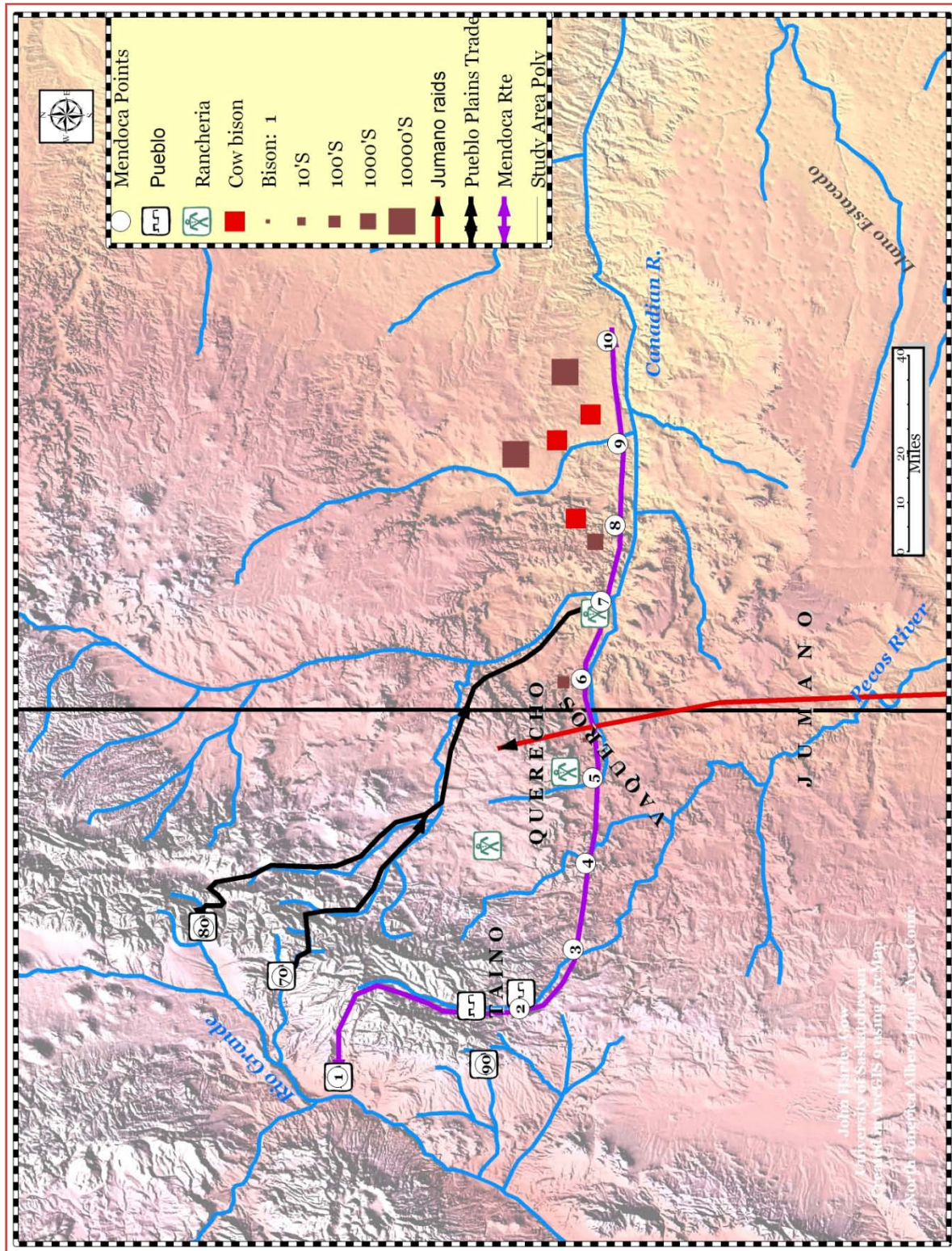


Figure 4.5. Mendoca Route & Data.

Mendoca set out from “camp [San Juan] for the cattle herds on the fifteenth day of September”, 1599 [**Point 1**].⁶¹ The sixty Spaniards took “many droves of mares” with them. They reached one of the Pecos pueblos on the 18th and remained there two days, installing a Franciscan as “prelate of that province” [2].⁶² I presume this was Cicuye. This is a stark contrast from previous argonauts who were forced to deal with the Taino either through negotiation or warfare. Oñate seems to have reduced this once powerful pueblo to submission. That Mendoca so blithely rolled through this outlier pueblo country indicates Taino power was much reduced in 1599. The Taino drew their power by being the gatekeeper and broker between the Pueblo and the Plains hunters, and from producing their own food through agriculture and hunting.⁶³ If this powerful group had now been reduced, many trade and political ties with other groups would have been affected. Besides being trade middlemen the Taino pueblos had protected the intermountain pueblos from Plains raiding. Presumably, unless the new Spanish landlords had the military power to forestall it, this could open the door to direct raiding from the Plains into the intermountain region. The reduction of the Taino would also open the door to other groups to assume some of the geographical influence, allowing for a brief period of Plains Apache ascendancy.

Mendoca then travelled until reaching a great grove of various plums apparently visited by Humana in 1593 [3].⁶⁴ On the 22nd they struck and camped on the *Gallinas River* [4], where they caught hundreds of fish despite the small flow of the river.⁶⁵ Unfortunately, Mendoca was the rare Spanish argonaut who did not name every point of interest. Here they encountered,

⁶¹ Bocanegra, Juan Guitierrez. "Account of the Discovery of the Buffalo, 1599." In *Spanish Exploration in the Southwest, 1542-1706*, edited by Herbert Eugene Bolton. (New York: Charles Scribner's Sons, 1916[1599]): 223.

⁶² The text says only that they reached the river, presuming they installed a new prelate at the pueblo and not on a riverbank. We know from the various texts there were several Taino pueblos on the upper Pecos. Presumably Cicuye was the most important and most likely to receive the benefice of a prelate.

⁶³ Dan Flores has written about “Gateway communities”, ecological zones which become sites of aboriginal middleman occupations in *Horizontal Yellow: Nature and History in the Near Southwest* (Albuquerque: University of New Mexico Press, 1999): 108. Flores saw agricultural commons that were held in place by aboriginal economy, an example being the Comanche – Wichita/Taovaya relationship discussed below. Perhaps the agricardo farms were commons, but argonaut records indicate family ownership of fields.

⁶⁴ Bocanegra (1916[1599]): 224. The party included a translator named Jusepillo, “one of the Indians [with] Humanya.”

⁶⁵ Bocanegra (1916[1599]): 224.

many “Indian herdsmen [*vaqueros*]...powerful people and expert bowmen.”⁶⁶ On receipt of many presents, these Indians agreed to provide a guide to the “cattle”. Their identification as *vaqueros* could mean they were Querecho, or Plains Apache.⁶⁷ However, given the proximity to the Taino pueblos, and since there was no mention of women or a camp these could also have been Taino hunters returning from the bison grounds.

The following day they made six leagues, indicating they traversed fairly easy ground [5]. Six leagues travel was impossible over broken ground. Here they met “three Indians [who] came out from a mountain...ranchería.”⁶⁸ Mendoca went with them to their ranchería, where there were “great droves of people” clad in blankets, buckskin and robes. They presented the Spanish with *pinole*, but there was no mention of corn or crops. Given their location, they could either have grown and processed the *pinole*, or traded for it at the pueblos. These people, likely Querecho/Plains Apache, asked Mendoca for protection against the Xumanas, or Jumanos.⁶⁹ This helps to place the Jumano rancherías below the *Canadian River* at this time, although they clearly raided above it. The Jumanos were identified as “painted...Indians.”

Heading east they found after three days their first bison, an outlier bull that “wandered alone and ran but little [producing] much merriment[.]”⁷⁰ The same day they began to encounter hundreds of bison around pools [6]. The following day, 29 September, they found many bison and offered some clues as to their location. They found the necessities for constructing a corral, indicating riparian stands of cottonwoods, and reported “the cattle went inland for more than eight leagues.”⁷¹ This indicates they were paralleling a river, with the *Conchas River* being the most logical choice. Inland here meant north away from the ‘coast’, or river bank, and towards home or San Juan. Mendoca ranged ahead six leagues to a river which flowed “from the province of the Picurías and the snow-covered range where they are.”⁷² This statement reveals

⁶⁶ Bocanegra (1916[1599]): 224.

⁶⁷ The Spanish had not yet figured the relationships between groups; Oñate himself differentiated at one point between “the Querechos, or herdsmen [and the] Apaches, of whom we had also seen some[.]” “Letter written by Don Juan de Oñate from New Mexico, 1599.” Bolton (1916): 219.

⁶⁸ Bocanegra (1916[1599]): 224.

⁶⁹ Bocanegra (1916[1599]): 225.

⁷⁰ Bocanegra (1916[1599]): 225.

⁷¹ Bocanegra (1916[1599]): 226.

⁷² Bocanegra (1916[1599]): 226. These mountains are the *Sangre de Cristo*. Possibly, “snow covered” was, in September, a bit of poetic whimsy, or a remembrance of the previous winter. However, both Pike and Long in the early 1800s evidence that the front range was covered in glaciers and snow pack year-

he struck the *Canadian River* [7], middle branches of which head near Picuris [70]. It also reveals the Spaniards then complete ignorance of the headwaters of that system.

On reaching the *Canadian* September 30th, Mendoca found no bison

because just then many Indian herdsmen [*vaqueros*] crossed it, coming from trading with the Picurías and Taos, populous pueblos of this New Mexico, where [the *Vaqueros*] sell meat, hides, tallow, suet, and salt in exchange for cotton blankets, pottery, maize, and some small green stones which they use.⁷³

The cotton blankets indicate the wide web of Indian commerce at this time, as the cotton was sourced in the Hopi pueblos. The ‘small green stones’ were possibly turquoises, a favored pueblo trade item. That these Indian traded *for* corn indicates they were likely mobile Plains Apaches as opposed to agricultural Apache groups encountered later and further north. That they traded “meat, hides, tallow, suet,” meant they hunted bison and not deer or pronghorn. Mendoca offers a wonderful description of dog transport: the dogs were “medium-sized...shaggy...carrying a load of flour of at least four arrobas” (100 pounds).⁷⁴ Women packed and wrangled the dogs.

October 12, Mendoca retraced his steps to meet his party and

found [another] ranchería in which there were fifty tents made of tanned hides, very bright red and white in color and bell-shaped, with flaps and openings, and built as skillfully as those of Italy and so large that in the most ordinary ones four different...beds were easily accommodated.⁷⁵

Mendoca was so impressed he “bartered” for a very large tent that “did not weigh over two arrobas” (50 pounds). This is the first full description of the tipi encountered in the sources.

This encounter between Mendoca and Plains groups between Cicuye and the *Canadian*, is evidence of a rapidly changing aboriginal world. Why were the *vaqueros* trading to the northernmost pueblos of Taos and Picuris rather than those clustered around *Santa Fe*? Many Apachean groups were positioned closer to Taos. The Spanish imposition would in time completely disrupt aboriginal trade pattern. Had this happened already? Quite possibly Mendoca was observing long term patterns at work. The route along the *Canadian* was a direct

round. Perhaps the *Sangre de Cristo* were snow-covered in September, 1599. All Spanish sources indicate winters were much more severe than what we are familiar with.

⁷³ Bocanegra (1916[1599]): 226.

⁷⁴ Bocanegra (1916[1599]): 227. Four arrobas of roughly twenty-five pounds.

⁷⁵ Bocanegra (1916[1599]): 226.

highway from the junction of the Conchas [7] to Taos [70], and is the same distance as it is to *Santa Fe* [90]; roughly 100 miles. The Taos route also bypassed the Taino and would allow for the *vaqueros* to pass through Apachean lands and trade directly with intermountain pueblos. Perhaps the Plains traders were actively avoiding the Spanish trade at this point in time; nothing in their shopping list was of Spanish manufacture.

The party returned to the *Canadian* where they holidayed for the saint day of San Francisco, and bestowed yet another name on the *Canadian River*, Rio San Francisco.⁷⁶ From October 5th they pressed on three days and fourteen leagues at the end of which they found both huge herds of bison and a “convenient and suitable site for a corral [built] of large pieces of cottonwood”⁷⁷ [9]. This corral was enormous; it took them three days to make and was meant to hold “ten thousand head of cattle.” While Mendoca’s erstwhile cowboys were successful in getting bison into the corral, domesticating them was another matter. The group suffered the loss of forty horses killed and badly injured, indicating the size of Spanish remudas. They described bison as “cunning...terribly obstinate, courageous beyond exaggeration [and] remarkably savage and ferocious.” Even bison calves proved too unruly to herd, and they abandoned the dream of domesticating the great herds of bison,⁷⁸ apparently this had been the purpose of the Mendoca enterprise. Mendoca surmised that bison might be domesticated if crossed with the “tamer [animals] from Spain.”⁷⁹

While he made some effort to discuss aboriginal culture, Mendoca’s report concentrated on the location and description of bison. They had found a massive herd of bison on the *Canadian River* at *Ute Creek* in September, “thirty to forty leagues” from San Juan. The ArcMap measure tool reveals a direct distance of 140 miles (230 km.) from San Juan to *Ute Creek*.⁸⁰ Having encountered outlier bulls the main herd, more properly herds, contained cows and bulls, as well as calves. The favored range of the bison was on the uplands above the river:

on some very level mesas which extend over many leagues, for after reaching the top of them by a slight grade, as of low hills, thirty leagues were travelled, continuously covered with an infinite number of cattle, and the end of them was not reached. The

⁷⁶ Oñate would use this name in 1601. Bocanegra (1916[1601]): 254.

⁷⁷ Bocanegra (1916[1599]): 227.

⁷⁸ Bocanegra (1916[1599]): 228.

⁷⁹ Bocanegra (1916[1599]): 229. He was right.

⁸⁰ The route as mapped covers 140 miles from Cicuye pueblo to this point. The journal entries add up to 50 leagues from Cicuye pueblo to journey’s end; 150 miles using a three-mile league.

mesas have neither mountain, not tree, nor shrub, and when on them [the Spanish] were guided solely by the sun...At the base of these mesas, in some places where there are glens or valleys, there are many cedars, and an infinite number of springs which issue from these very mesas, and a half a league from them there are large cotton[wood] groves.⁸¹

All of the given information supports a trek along the *Canadian River*, and it is possible they ventured further east than depicted here.

Mendoca returned to San Juan November 8, 1599, after fifty-four days. He reported a wealth of bison protein, and available grass and water all along his path. While he discovered no other wealth, neither did he report any obstacle, human or environmental, that would have impeded further explorations. His reports of masses of bison on the Plains may have deluded later argonauts, and generations of historians, into presuming that the *Canadian Plains* were covered year-round in bison. Later argonauts clearly disprove this notion. Mendoca never reported the sand dunes other argonauts would find along the river. He reported no *despoblados*, although he found no groups on the plains east of the river. Mendoca did not find any great desert, but neither did he report anything that would have excited further exploration, much less a rush of settlers. What he did do was travel this route with impunity, opening the door for future and further explorations, of whom Don Juan Oñate would be the next.

Oñate, 1601.

While Mendoca searched for bison, Oñate had searched the Jumano pueblos and rancherías for gold and pearls, and planned an expedition to the South Sea, or the Pacific off *California*. Something changed his mind however, likely reports from the Plains, and he determined to visit Gran Quivira. Oñate may literally have been searching for greener pastures. The colonists' locust-like consumption of Pueblo grain stores combined with a devastating drought in the intermountain⁸² may have driven the search for Quivira. Accordingly, Oñate organized a large expedition in the spring of 1601 that featured seventy "men," "seven hundred horses and mules, eight carts, four cannon," and hundreds of sumpter loads of supplies requiring hundreds of Indian bearers.⁸³ With this large party Oñate set out June 23, 1601 on a five-month odyssey across the Great Plains. The Spaniard found what he called Gran Quivira but was

⁸¹ Bocanegra (1916[1599]): 230.

⁸² Knaut (1995): 62.

⁸³ Bolton (1916): 205. To the Spaniards the terms men and Indians were seemingly mutually exclusive.

bitterly disappointed with the results. Oñate produced a record, unfortunately not a journal but a recollection dictated to a scribe upon his return, and an intriguing map of limited usefulness (Figure 4.6).

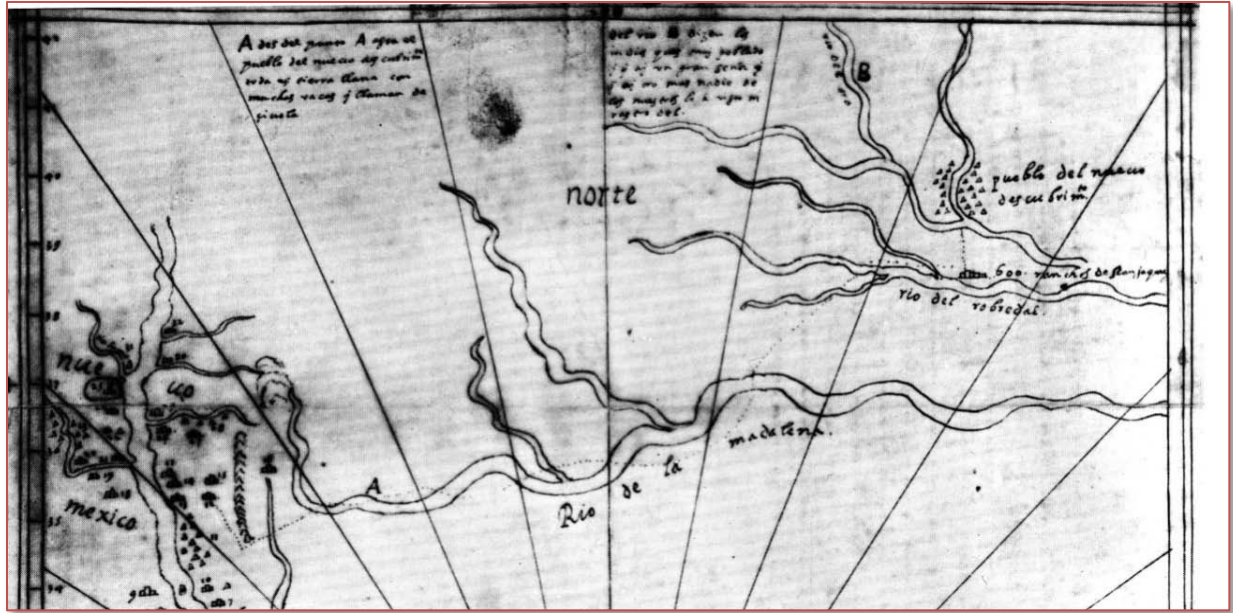


Figure 4.6. Enrico Martínez. “Untitled map, New Mexico, 1602.” In, George P. Hammond. *The Rediscovery of New Mexico, 1580-1594*. (Albuquerque: University of New Mexico Press, 1966): ii. Original in the Archives of the Indies, Seville.

The original record, “Relacion Verdadera de los sucesos de la entrada que hizo el gobernador D. Juan de Oñate en las poblaciones de Nuevo Mexico hacia el Norte”, is in the Archive of the Indies, Seville. This paper was written from the Bolton translation “True Account of the Expedition toward the East, 1601.”⁸⁴ The map was produced in Mexico, 1602, by cosmographer Enrico Martínez for the viceroy “who was trying to get a clear picture from returning officers” of what new Mexico “amounted to.”⁸⁵ Martínez apparently considered his map a “sketch”, and even though he had first-hand experience of the region, and the document is best thought of as a mind-map rather than a precise representation. The latitude scale is quite accurate for the lower Rio Grande valley; for instance the scale shows El Paso at 32° (actual

⁸⁴ Bocanegra, Juan Gutierrez. “True Account of the Expedition toward the East, 1601.” 250-266 in, *Spanish Exploration in the Southwest, 1542-1706*, edited by Herbert Eugene Bolton. New York: Charles Scribner's Sons, 1916[1601].

⁸⁵ Hammond, George P., ed. *The Rediscovery of New Mexico, 1580-1594*. (Albuquerque: University of New Mexico Press, 1966): 63.

latitude 31°5°N). The veracity of the map declines towards the north, as Taos is depicted at almost 38° (36°3'N). The northernmost Pecos Pueblo is contrarily almost exactly situated at 36°, as is the *Conchas River* at 35°2°N. As always, longitude is a different matter, and the mapper stretched east-west distances of travel. Since Martínez provided no scale, and the Spanish had no way of figuring this apart from the daily travel estimate, their longitudinal position is mysterious.

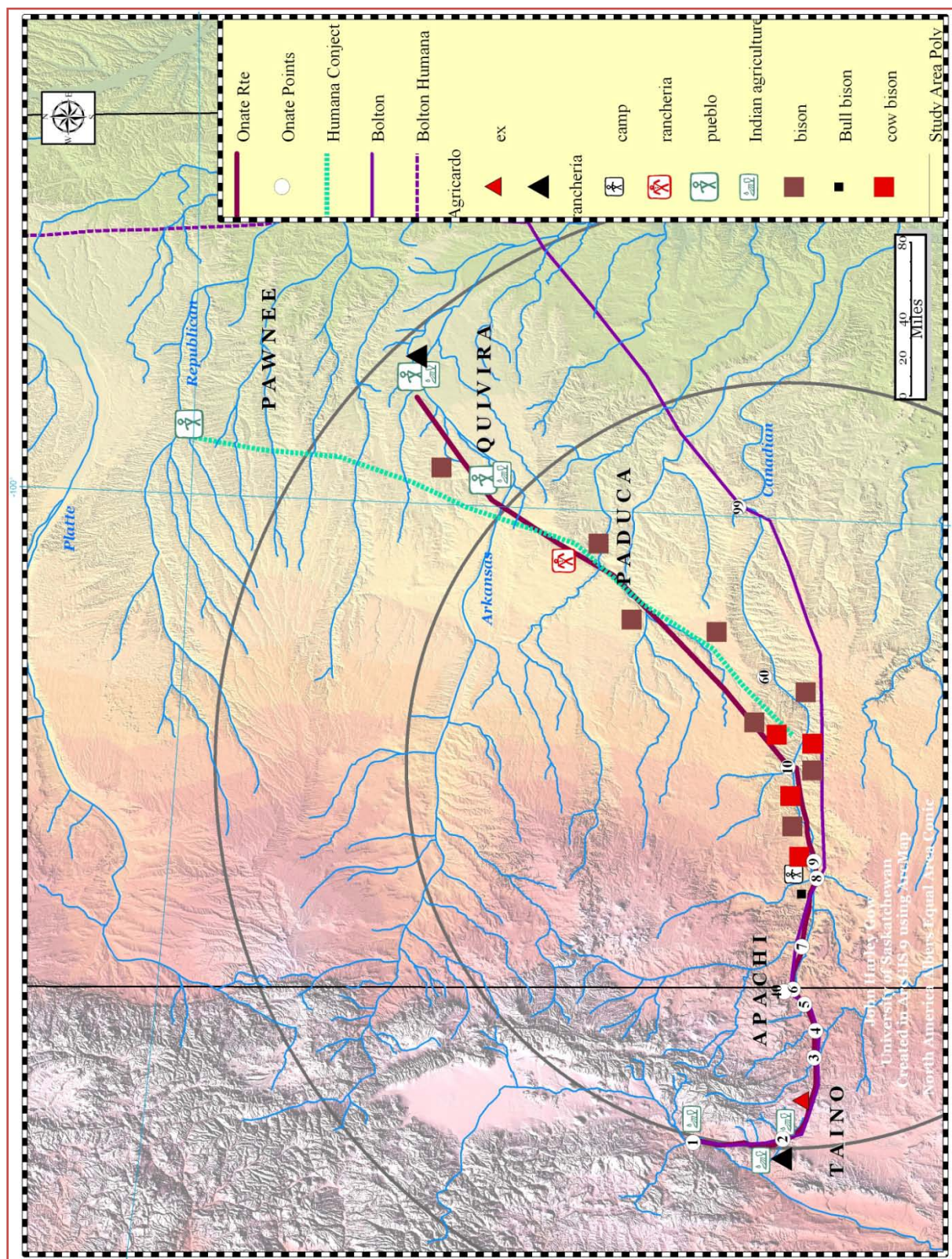


Figure 4.7. Oñate Route & Data.

Oñate began his trek from his first ‘capitol’, San Gabriel, June 23 1601 [**Point 1**]⁸⁶ (Figure 4.7). As usual, they chose a staging area for all the disparate elements, soldiers, Indian servants, settlers and stock to gather, the “post or pueblo...called Galisteo [**2**].”⁸⁷ That they took this circuitous route reflects the scattered nature of the Spanish presence. Elements of Oñate’s entrada had ensconced themselves at various pueblos in order to ‘administer’ them and also to spread the burden of feeding them on the Indians. Sundry bloody rebellions are evidence this tactic was not wholly successful.⁸⁸ It took “five or six days” for the participants to arrive at Galisteo. According to the Martínez map⁸⁹ they then travelled south of Galisteo which seems counterintuitive unless considering that “the carts could not ascend [the] large mountain”, or the *Sangre de Cristo* chain.⁹⁰ This journey, unlike that of Mendoca, was then restricted by the necessity of “opening a road.”

Five day’s travel, roughly fifty-five miles or 18 leagues, saw them reach the San Buenaventura River, the *Pecos* [**3**]. To complicate issues, Martínez has this as the Rio Salado. Presumably they struck the *Pecos* at Cicuye; a nearby source of stores. The ‘tame’ pueblos are not mentioned in this account as they disappeared from Spanish consciousness once conquered. This tractable route also provides a workable daily travel estimate of three to four leagues. The saint’s-day naming gives us the date, July 14. This also reveals a serious problem with the journal’s timekeeper, one which has stymied previous journalists. They did not mention the many rest days they took; expeditions with carts and wagons took many more rest days to recuperate draft animals. When they say it took one day to negotiate the plain, it likely did. However, they apparently took advantage of the good grazing at either end, meaning one day’s travel actually took three days. In this journal there are many unaccounted for rest days, and figuring their progress by Saints’ days is a more realistic approach.⁹¹ On the *Pecos* they found

⁸⁶ Santa Fe was yet to be established as capitol; it was still a pueblo. San Gabriel is the present Alcade NM.

⁸⁷ Bocanegra (1916[1601]): 251.

⁸⁸ Simmons’ *The Last Conquistador* is a very readable history of Oñate and his entrada. Oñate savagely put down numerous pueblo rebellions, including Acoma and Cicuye, and “the slaughter was appalling.” (143).

⁸⁹ Martínez 1602.

⁹⁰ Bocanegra (1916[1601]): 251.

⁹¹ Sosa is the best example of a journalist mentioning rest days.

“shady groves” and a peaceful river full of fish. It had taken them twenty-three days to travel the 100 miles from San Gabriel to the *Pecos River*.⁹²

On the “next day”, July 15, they struck the “River of the Bagres [catfish],” after crossing “extensive plains with very abundant pasturage”⁹³ [4]. This description of the *Gallinas River* closely matches that of Mendoca. “After the horses had rested,” they travelled three days along the *Gallinas River* and struck “another river...we named Magdalena,”⁹⁴ or the *Conchas*. This would have been July 22. It took them three days to travel the approximate fifteen miles between the two rivers. The first month of travel had taken them 130 miles. Martínez shows them taking a northeasterly course; they were making a ‘beeline’ for the *Canadian River*. They had a very good working frame of this geography based on Mendoca’s experience. They apparently crossed the *Conchas River* on reaching it, [5] likely to secure a better ‘road’ for the carts; they would cross and re-cross the *Conchas-Canadian* several times in all.⁹⁵ It is highly unlikely they increased their daily rate of travel along the *Conchas* as the banks of the river were rocky and “uninviting”, the stream sluggish. Within a day the river valley

became so verdant, pleasant, and so covered with vines and other fruits on all sides that we clearly saw it was one of the best rivers which we had seen in all the Indies. Here some Indians of the nation called Apachi came out with signs of peace...men, women and children [they] brought us some small black and yellow fruit of the size of small tomatoes, which is plentiful on that river.⁹⁶

This was approximately the site where Mendoca first encountered the *Vaqueros* [6] answering the question as to whether the Taino hunted this far east; they did not. The fruit was likely that of the Foetidissima gourd which fruits summer through late autumn, and is found throughout the steppes to the *Arkansas River*.

A timely entry is that they reached “a place which from times past had been called Rio de San Francisco...on the feast of the Porciuncula, which is the 2d of August [.]”⁹⁷ This name stems from Mendoca, from October 3-4, 1599. That Oñate first uses it here indicates that they have just reached the *Canadian River* proper, after the junction with the *Conchas* [7]. Since the

⁹² Measure Tool.

⁹³ Bocanegra (1916[1601]): 252.

⁹⁴ Bocanegra (1916[1601]): 252.

⁹⁵ Bancroft calls this the Canadian, which is misleading. Bancroft (1916): 252, *n2*.

⁹⁶ Bocanegra (1916[1601]): 252.

⁹⁷ Bocanegra (1916[1601]): 254. The “feast of the Porciuncula” is associated with the death of St. Francis, and falls on 2-3 August.

expedition included Vincente Mendoca and the Indian Jusepe⁹⁸, both veterans of the previous expedition, it seems logical that the naming conventions would carry over. It had taken them eleven days travel to transit the proximate forty miles from the *Conchas*. On the day of San Lorenzo, August 10 and seven days from the river junction, they began to see “those monstrous cattle called *cibola*” [8], and they were able to kill some bulls which “caused great rejoicing.”⁹⁹ The following day they found great numbers of cows and bulls [9]. They were now on the south shore of the *Canadian*, still heading east, and about to make a turn north.

The bison were now an uncountable “multitude” and the “river [was] thickly covered on all sides” with bulls and cows. This is the first source to qualify the difference between bull and cow meat; both were; “very good, and very much better than our cows. In general they are very fat, especially the cows, and almost all have a great deal of tallow.”¹⁰⁰ They made no mention of calves. Oñate also reported “another [animal] not less wonderful...deer which are as large as large horses. They travel in droves of two and three hundred and their deformity causes one to wonder,”¹⁰¹ surely a reference to elk. Also, the Spaniards often refer to the great numbers of fish in the river. To this point, the writers have never intimated a shortage of grazing or potable water, perhaps surprising since they were tracking the *Canadian River* in high summer. Later argonauts reported a more difficult transit.

The best clue we have to figuring the location of the bison plains is the point at which they left the river and turned from east to the north. This was at “one hundred and eleven leagues of travel.”¹⁰² The furthest point they could have reached given optimal conditions and utilizing a three mile league is shown at **60**; 320 miles from their starting point, and computed at the most direct route imaginable. This is a full 100 miles west of Bolton’s calculation at **90**. Nothing in the record suggests they could have gotten as far as Point 60, much less Bolton’s suggested point.

There is no way to square the days of travel time they spent on the *Canadian*. We know they were precisely five months portal to portal, and that they spent “fifty-nine days” returning from their furthest point of travel 24 November; this made their turnaround date 27 September.

⁹⁸ Elsewhere identified as Joseph, Joseph Gutierrez, et cetera.

⁹⁹ Bocanegra (1916[1601]): 254.

¹⁰⁰ Bocanegra (1916[1601]): 255.

¹⁰¹ Bocanegra (1916[1601]): 255.

¹⁰² Bocanegra (1916[1601]): 255.

It took them a month, until 22 July, to reach the *Conchas River*, and they covered 130 miles in that month. This meant the expedition then spent two months getting from the *Conchas River* to Gran Quivira and including the time spent there. Bolton has the Spanish at *Commission Creek OK*¹⁰³ when they made their decision to “leave this river, as ahead there appeared to be some sand dunes; and [turned] from the east to the north”¹⁰⁴ [90]. *Commission Creek* [36° 0'N 99° 55'W] is over 400 miles from San Gabriel, and 250 miles from the *Conchas* junction. Oñate noted that they had travelled “one hundred and eleven leagues” to this point. By Bolton’s calculations an ‘Oñate league’ was at least four miles,¹⁰⁵ but the Spanish records refute a four-mile league. Bolton’s route covered 650 miles in 59 days return of which at least one day in six was a rest day. This meant they travelled 650 miles in 53 days, or roughly 12 miles/4 leagues per day. This pace would have been impossible. The route as figured by Bolton, and simply accepted by later historians, is unrealistic, and exaggerates by at least one third the distance Oñate travelled.

My approach was to figure a reasonable travel distance based on reported data and to utilize the clues provided by the Martinez map. Assuming a rate of three leagues per diem, Oñate travelled a maximum of 450 miles. Martinez shows that all the rivers they struck flowed eastward; this means they did not strike the *Arkansas* or “rio de robedal” east of the *Big Bend* where it turns to the south. The Rio Grande enters the Gulf at 101°20'W, and according to the map their easternmost progress was not that far east. Oñate did not get as far northeast as Bolton would have him. Further, given the evidence of the map and record, it is unlikely to impossible that they reached as far north as 40°N. Instead, Oñate travelled north from the Canadian after having struck three branches of that river. They crossed the short grass plains to the “rio de robedal” or *Arkansas River* flowing due east as indicated, and encountered the Plains Apaches just below either their historic location, *El Cuartelejo* or further east before the *Big Bend*, some 180 miles shorter than Bolton’s model.

¹⁰³ Bolton (1916): 255 n 2.

¹⁰⁴ Bocanegra (1916[1601]): 255.

¹⁰⁵ For another discussion of the league distance, including Bolton’s use of a long league, see, Susan C. Vehik. "Oñate's Expedition to the Southern Plains: Routes, Destinations, and Implications for Late Prehistoric Cultural Adaptations." 13—33, *Plains Anthropologist* 31: 111 (1986): 14.

Upon leaving the *Canadian* they had “travelled up a small stream” [10] and found “the great plains covered with innumerable cattle.”¹⁰⁶ In part they left the river to avoid traveling through “sand dunes.”¹⁰⁷ Almost immediately they reported “better roads”, although they would encounter “large ravines and broken hills” in places, indicating they crossed the arroyos of the various streams; *Coldwater Creek* and *Beaver Creek*. They “continued in this direction for some days”, although they wandered at times since the land was so level.¹⁰⁸ They traversed short grass plains “covered with flowers of a thousand different kinds, so thick that they choked the pasture.” Although their horses and oxen did not appreciate the grazing, “there were multitudes of” bison here. These plains took several days of travel to cross. John Miller Morris has written that these descriptions, made by those familiar with the bioregion, were “applicable to the Southern High Plains.”¹⁰⁹ Certainly they were transiting the High Plains, evidence for a more northerly route than depicted by Bolton. That they noted crossing at least four small eastward flowing rivers before striking the *Arkansas River* drainage accords nicely with the geography of the Central Plains¹¹⁰ The third was a small river “carrying little water” but heavily wooded, including walnut trees.¹¹¹ The pasture here was tall grass “so abundant...the land...could scarcely be seen.” The next day they struck another river, also wooded, and “the cattle were innumerable.”¹¹² This and other records make clear that, in early historical times, rather than the plains being carpeted with bison, the animals coalesced around riparian valleys. The first argonauts related an aboriginal Plains milieu pre-horse; it is easy to see how the aboriginal

¹⁰⁶ Bocanegra (1916[1601]): 255.

¹⁰⁷ Bolton has this at the Antelope Hills OK [99°50'W], but the valley in Oldham County TX [102°10'W] was in 2008 and 2010 barely grassed dunes, as was the valley at Canadian TX [100°30'W]. Depending on climate and weather patterns many sections of the valley could be impassable for wagons depending of rains and ground cover. One year's hills are another year's dunes.

¹⁰⁸ Bocanegra (1916[1601]): 256.

¹⁰⁹ Morris (1997): 143.

¹¹⁰ Bocanegra (1916[1601]): 256. They crossed “two small streams which flowed toward the east”, then “a small river”, and “on the next day three leagues [on] a river carrying more water[.]” See the proposed Onate route map below.

¹¹¹ There are at least thirty Walnut Creek waterways, creeks and rivers, in Kansas. One flows into the Big Bend from the west. The name is found as far west as above Dodge City; there is a Walnut Canyon on the Pecos. Genus : *Juglans Nigra*. Black walnuts grow throughout the Americas, including across the plains and through the intermountain. One variety grew along high plains waterways, and Onate's mentioning walnut groves does not restrict the location to east of the Arkansas. The Apache used the hulled seeds for food, using it as a snack and also grinding the nuts to mix with meat in pemmican fashion. Jordan (2008):63.

¹¹² Bocanegra (1916[1601]): 257.

acquisition of thousands of horses would have increased pressure on these rare and relatively fragile riparian biomes.

Somewhere after this fourth stream, Oñate found a *ranchería* of “five thousand souls” living in large “houses [built of] branches...placed in a circle, some...ninety feet in diameter. Most of them covered with tanned hides, which made them resemble tents.”¹¹³ The people practiced no agriculture, at least none was observed, “but they lived solely on the cattle.” They dressed primarily in hides, if they wore clothing, and both men and women “were very dexterous” with the bow and arrow.¹¹⁴ From the map and associated documents, not the Oñate text directly, these people have come to bear the identifier *Escanjaques*; a name that appears nowhere else in the primary sources. From their description and location these people were most likely the El Cuartelejo Apache, identified later by Bourgmont as Padoucas, found here in a mobile hunting camp. Presumably they also maintained their *rancherías* at El Cuartelejo on the upper Arkansas valley, as situated in 1706 by Ulibarri.

The Padoucas guided the Spanish seven leagues, twenty miles, to a river

with wonderful banks, and, although level, so densely wooded that the trees formed thick and wide groves. Here we found a small fruit the size of a wild pear or yellow sapodilla, of very good flavor. The river contained an abundance of good fish, and although at some places it had good fords, in other parts it was extremely deep...It flowed due east[.]¹¹⁵

The river valley also featured tall grass “high enough to hide a horse.” Most writers agree that this was the *Arkansas*; it could be no other.¹¹⁶ Once across the river, Oñate found himself in Quivira, the territory of another Indian group, the Jumano/ Wichita. The Padouca were their mortal enemies. Again, leaving one drainage system for another signified the boundaries of two Plains aboriginal groups.

The question is, where did they strike the river, and where was Quivira? Both the journalist and the mapper were emphatic that the *Arkansas* flowed due east. Bolton’s model has them striking the river at a point where it flows due south, and does so for many miles in each

¹¹³ Bocanegra (1916[1601]): 257.

¹¹⁴ Bocanegra (1916[1601]): 258.

¹¹⁵ Bocanegra (1916[1601]): 258.

¹¹⁶ Bolton, Vehik (1986). Oñate identified this river as Rio San Francisco, possibly just to confuse future historians as he had previously bestowed this name on the Canadian.

direction.¹¹⁷ From the environmental and cultural evidence given in the text, Quivira was located east of the Big Bend of the *Arkansas*. Elizabeth A. H. John has written that this was where Coronado found Quivira, in 1541; sixty years later the location was the same.¹¹⁸ The Wichita “appeared upon some elevations,” being the escarpment above the *Arkansas*, and made signs threatening “cruel war” with the Spanish and Padouca.¹¹⁹ The Spanish convinced them they were peaceful, and the Wichita presented them with “ears of maize...the first we had seen in this good country [and] round loaves of bread, large as shields...made of the same maize”. The Spanish were invited to their town by the Wichita *jefe* Catarax.¹²⁰ Oñate observed of Catarax, “it was remarkable how they obeyed and served him...like a people more united, peaceful and settled.” Catarax had the level of authority associated with agrícaro organization.

Regardless of Spanish promises, the Padouca attacked the Wichita, and they abandoned the field after Catarax was captured. The Spanish entered his *ranchería* at the junction of the *Arkansas* and another stream, possibly *Big Sandy Creek* or the now defunct watershed above *Holcomb KS*.¹²¹ This *ranchería* contained

more than twelve hundred houses, all established along the bank of another good-sized river which flowed into the large one. They were all round, built of forked poles and bound with rods, and on the outside covered to the ground with dry grass...Most of them were large enough to hold eight or ten persons.¹²²

As the town was abandoned, the Spanish and Padouca helped themselves to stored corn and other crop foods. The Wichita town was a

pleasant spot surrounded on all sides by fields of maize and crops...The stalks of the maize were as high [early October] as that of New Spain and...even higher. The land

¹¹⁷ Carl O. Sauer solves this problem by having Oñate strike the *Arkansas* at the western bottom of the Big Bend, then following the river to Wichita KS. *Seventeenth Century North America*. (Berkeley: Turtle Island, 1980): Fig. 7, 53. This route would add 160 mi. / 250 km. to Oñate’s travels in Quivira.

¹¹⁸ John, Elizabeth Ann Harper. *Storms Brewed in Other Men’s Worlds: The Confrontation of Indians, Spanish and French in the Southwest, 1540-1795*. (Lincoln: University of Nebraska Press, 1981[1975]): 20ff, map at 72-73.

¹¹⁹ Bocanegra (1916[1601]): 259.

¹²⁰ A difficult piece of evidence. Was Catarax an exo- or endo-nym? The name Catarax is firmly associated with the plains Apache. The “Gattacka” were identified by LaSalle in 1682 living below the Pawnee, and historically the Plains Apache would be identified as “Kataka” and “Cataraka” to United States representatives. Jordan (2008): 28.

¹²¹ Pure speculation, here. This formation has intrigued me since I first spotted it on the topographical desktop. Clearly, in earlier and wetter times this great wash, fifty miles long and twenty across at its mouth, was formerly an estuary. It appears to have been the valley of the Smokey Hill River at one time.

¹²² Bocanegra (1916[1601]): 260.

was so rich that, having harvested the maize, a new growth of a span of height had sprung up without any cultivation or labor other than the removal of weeds and the making of holes where they planted the maize. There were many beans, some gourds, and, between the fields, some plum trees. The crops were not irrigated but dependant on rains[.]¹²³

Oñate commented on the “warm climate” in October and noted that the crops did so well because in part of “very regular” rains that in October were as heavy as “August in New Spain.” Evidence of two maize crops in a year was also later made by Bourgmont. I figure the Wichita towns to have had Type C agriculture since it showed high levels of community organization, long-term presence, and surpluses. That Oñate was drawn to the place, and the demonstrations of high organization make the case for a substantial agricardo at this site in 1601.

Catarax and his people proudly asserted that they had “in this region...murdered the Spaniards” by burning them; this could only have been the Humana party. They situated these events “eighteen days from here” to the north, where there was “another large river which divided into six or seven branches.”¹²⁴ Bolton insisted this was the *Kansas River* near *Manhattan KS*.¹²⁵ Eighteen days travel for the Wichita could have likely meant something like fifty leagues, given a three-league day for dog transport. These events likely took place on the *Platte* rather than the *Kansas*, over three hundred miles closer than Bolton’s model to the pueblos. Bolton’s Humana route proposed a virtually unprecedented one-way route of 1000 miles of travel.

Oñate’s expedition, regardless of end-point, was a remarkable achievement. Trundling ox-carts across the high plains in high summer was an amazing feat, not, I believe, to be repeated. The *Santa Fe Trail* would later track further east and along, rather than across, rivers. However, this enterprise, along with Sosa’s unique trip up the *Pecos*, would dissuade others from following its tracks. Oñate demonstrated that the short grass High Plains between the *Canadian* and *Arkansas* rivers was to be avoided, at least by wagon-borne groups. This was no desert, but the short grass and flowers did not appeal to domestic animals. It was another matter for bison, however. The riparian valleys of the High Plains supported hundreds of thousands of bison in

¹²³ Bocanegra (1916[1601]): 261. Again, the ‘three sisters’ mode of Indian agriculture.

¹²⁴ Bocanegra (1916[1601]): 261.

¹²⁵ Bolton (1916): 260, *n* 4.

late summer, 1601. Unfortunately Oñate made no observations regarding cows and bulls once off the *Canadian*. To that point, cows and bulls were interspersed.

The Spanish made no direct mention of the pueblos they passed through, unnoted but for the installation of new prelates. Possibly the first group encountered was an outlier of the Taino. Later groups along the *Conchas* and *Canadian* were Apachi, smaller bands of mobile traders, then hunters. These people traded between Taos and the Southern Plains; there was no indication they moved onto the *Llano Estacado*. The *Canadian River* valley was occupied by groups from the Pecos pueblos to perhaps *Borger TX*. Significantly, they reported no Indian presence on the High Plains until some twenty miles south of the *Arkansas River* where they met the Padouca. The unnamed group, of some 1200 individuals, was Plains Indian bison-hunting and tipi-dwelling. Identified as the Padouca herein, they had a strong central organization. Their location and cultural evidence suggests they may have been the El Cuartelejo Apache, or a subset thereof. They were enemies of the Quivira Indians, identified as Wichita.

Oñate might be the last argonaut to have considered the Pecos pueblos as a serious presence on the Plains. The Taino were no longer the powerful force that forced consideration from all previous argonauts visitors. Cicuye had descended from Taino stronghold and capitol to being a Spanish satellite mission. Taino agriculture was captive to Spanish interests now, likely contributing to a major change in diet for the formerly powerful middleman pueblo. Spielmann, et al, observed that the Taino underwent a major change in diet as “Spanish demands for food...depleted Pecos’ stores [of grain], while demands for labor would have resulted in less time for crop production.”¹²⁶ The Taino increasingly turned to gathered foods and away from corn. Oñate/Mendoca also provide evidence that Apachean traders circumvented Cicuye in favor of northern pueblos reflect Cicuye’s decline. While Cicuye would persist as a Spanish mission until abandonment in 1846, it may fairly be said that the argonaut Oñate destroyed this cultural complex and agricardo as a powerful presence in the Study Area.

Neither did Oñate or Mendoca encounter the Jumano in transiting what had been the northern limits Jumano territory to this point. As Oñate destroyed the Jumano Pueblo, so he seems to have destroyed the Jumano power base in New Mexico, or begun that process. Future argonauts to the Canadian/Pecos plains, and it would be a century before there were any, would

¹²⁶ Spielmann (1990): 760. The authors’ study involved analyzing bones from Taino burial sites for ¹³C and strontium density.

report no Jumano presence in this region. Rather, this region would be an Apachean place; that group pounced upon the power vacuum created by Oñate's destruction of Taino-Jumano power, and seized the trade, hunting, and agricultural potential of the southwest corner of the Study Area.

The Wichita seem to have been at the northern extremity of their territory and identified other groups to their north, likely Pawnee. Quivira, at least the western and northern bounds thereof, was on the Arkansas River, west of the Great Bend. These people lived in grass houses with interior grain storage. They raised extensive fields of maize, beans and squash, and tended tree fruit. The Wichita were able to produce two crops of maize a year; evidence indicates this was a possibility for groups from the Kansa to the Jicarilla Apache before 1800. This suggests warmer and wetter times and a longer growing season than we know today. Their place at the edge of the bison plains indicates they were also bison hunters. If they traded their surplus, it was to the east as the Padouca sealed them from the west-southwest. There was no *despoblado* on the route.

Weather-wise, 1601 may have been a mild year. They crossed the Plains in high summer without complaining of heat or thirst. Along the Conchas River in late July it was "warmer than the settlements from whence we had started." They encountered "heavy rain" which delayed their progress; such rains were "very common in those plains."¹²⁷ Rains seem to have been commonplace across the Plains to Quivira, running July through October, west to east. Quivira's crops grew without irrigation. Generally, Oñate gives the impression the Plains were a fairly navigable and forgiving place, albeit one with stretches of bad grazing. This is in stark contrast to the intermountain where the pueblos were suffering through serious drought.

The Spanish relatively cruised to the *Arkansas River*, thereafter fought their way around Quivira and back onto the high plains. They make no mention of animal losses, but it is possible they contributed animals to a feral horse population, otherwise unnoted. We also have no record of what happened to the horses of the annihilated Humana expedition of 1593. Oñate made no mention of seeing horses on his journey, and the Indians encountered made no mention of horses; yet they were not overawed by them. Perhaps by 1600 and decades before the *Pueblo Revolt*, Plains Indians were already becoming used to horses.

¹²⁷ Bocanegra (1916[1601]): 253.

Oñate would be recalled to Mexico when news of his Pueblo exploits was disseminated. Carl Sauer wrote that New Mexico's first governor and his clan were:

belated predators...doing grave and willful injuries to the natives, causing a serious decline of condition and numbers. The Oñate regime was an anachronism, in conflict with the New Laws of the Indies.¹²⁸

While Oñate did establish New Mexico, and its capitol Santa Fe in 1610, he also sowed the seeds of the colony's downfall.¹²⁹ One of his accomplishments was to destroy the Jumano Pueblo. Spanish dependence upon Pueblo agriculture shattered existing trade relationships between the intermountain and Plains aboriginal groups. A succession of Spanish officials and Franciscans attempted to Christianize and 'civilize' the Pueblo over the next seventy years, and Spanish influence would extend as far north as Taos. That the Spanish were able to extend their frontier only sixty miles northwards in seventy years makes clear both the low level of their commitment to settlement and the Pueblo and Athapascan resistance to same.¹³⁰ In a land that featured "eight months of winter, four months of hell,"¹³¹ quadrennial supply trains, and now constant raiding, colonists were few and often unwilling. In 1677 New Mexico enjoyed "its largest influx" of colonists since Oñate's entrada, 43 soldiers; of these, 40 were transported in chains.

1630-1690

New Mexico largely 'fell off the map' following the Oñate entrada. Since no mines were discovered, no wealth flowed south, and therefore no colonists flowed north. The Pueblo became a place of religious as opposed to commercial exploitation for the Spanish. There were no direct approaches to the Great Plains. The Franciscan order assumed the mantle of Spanish power in New Mexico, and provided the limited reportage from that frontier. The period 1610, from the founding of capitol Santa Fe, until the Pueblo Revolt in 1680 was a period of stasis leading to decline for Spanish interest and presence, but also a time of Pueblo persistence and Apache preeminence. As the relative power of the Pueblo/Rio Grande Valley declined, Apachean presence increased exponentially.

¹²⁸ Sauer, Carl O. *Seventeenth Century North America*. (Berkeley: Turtle Island, 1980): 59.

¹²⁹ For an excellent discussion of these events and this process, see Andrew L. Knaut. *The Pueblo Revolt of 1680: Conquest and Resistance in Seventeenth-Century New Mexico* Norman: University of Oklahoma Press, 1995.

¹³⁰ The first recorded Apache attack on New Mexico occurred in 1606/7; by 1608 three expeditions had been led against the Apache by Oñate's lieutenants and son. Knaut (1995): 69.

¹³¹ From the Valverde inspection of New Mexico, 1601. Quoted in Knaut (1995): 131.

One point of contact with this period was the 1630 Benavides *Memorial*, the report of Fra Alonso de Benavides to Philip IV summing up five years of service as commissioner to New Mexico missions.¹³² Benavides noted the destruction of the Jumano pueblo by Oñate, as well as the heavy burden imposed on the *encomienda* (tribute) system. *Encomienda* involved extracting annual tribute from all aboriginal family units within a pueblo or other defined unit by citizens, meaning those of at least some Spanish blood entitled to hold land. The tribute in the Pueblos was generally a *fanega* of grain, first corn and later wheat¹³³, as well as a cotton *manta*.¹³⁴ Additionally, Spanish officials often raided pueblos and missions alike and took livestock.

Another Franciscan report in 1638 specifically addressed the issue of disease in the pueblos. Juan de Prada outlined to his Franciscan superiors that New Mexico could not sustain a transition to secular government in part because the population was wracked by disease. Conversions were declining because of “the very active prevalence during these last years of smallpox and the sickness the Mexicans call *cocolixtli*.”¹³⁵ This is evidence of a smallpox outbreak in the pueblos in the 1630s, a rare mention of disease, much less a specific disease. The reference to *cocolixtli* is priceless in this context. *Cocolixtli*, elsewhere *cocolitzi*, is believed to be a “haemorrhagic fever” of indigenous development.¹³⁶ This view runs counter to the popular assumption that all New World diseases were importations. Even more interesting is that the devastating *cocolixtli* appears to be connected with severe drought in Mexico.¹³⁷ Acuna-Soto (et al) argues that the conjunction of Spanish exploitation and “unusual climatic conditions may have interacted with host-population dynamics and the *cocoliztli* virus to aggravate...epidemics

¹³² Sauer (1980): 61. The *Memorial* was published in Spain in 1630. Sauer noted that another version, also published, was presented to the Pope (?) in 1634.

¹³³ The Spanish introduced winter wheat to the pueblos circa 1600-1610. The crop was apparently embraced by Apachean agriculturalists.

¹³⁴ Since the cotton was grown to the east and acquired through trade, this requirement likely put a heavy burden on Pueblo families.

¹³⁵ Sauer (1980): 65.

¹³⁶ John S. Marr and James B. Kiracofe. “Was the Huey Cocoliztli a Haemorrhagic Fever?” 341-362, *Medical History* 44:3 (2000): 341. “[E]ven the most recent and comprehensive scholarship in the field insists that the catastrophic demographic collapse of the native population of the continent was a result of imported diseases, including, most famously, smallpox, measles, and typhus. While there is surely compelling evidence that Old World epidemic disease devastated the native population, we believe that two of the most deadly outbreaks of the sixteenth century, 1545-48 and 1576-80, may have been of a disease of New World origin.”

¹³⁷ Acuna-Soto, Rodolfo, David W. Stahle, Malcolm K. Cleaveland, and Matthew D. Therrell. “Megadrought and Megadeath in 16th Century Mexico,” 260-262. *Historical Review* 8:4 2002.

of 1545 and 1576,” and killed millions of aboriginals in Mexico.¹³⁸ They surmise that the infection was borne by rodents. That the disease also showed up in the stressed agricultural pueblos is not surprising. Using dendrochronological studies along with data from a modern Hantavirus epidemic, the authors found that the worst Mexican outbreaks occurred in a respite from drought, a “brief wet episode within the era of prolonged drought” in 1545 that likely spurred “a tenfold increase” in the rodent population in similar conditions. We do not have the precipitation records from New Mexico, but we do have reports of “a very cold country” along the Rio Grande.¹³⁹ How these diseases, and the Spanish more generally, affected populations is impossible to enumerate. However, Benavides in 1630 estimated the Cicuye population at “2,000 souls”; Espejo in 1583 (above) estimated the Taino at “more than forty thousand souls.” Elsewhere Benavides’ enumeration reveals that he made his count at pueblos where several shattered groups had coalesced into one for survival. Obviously the population losses both on the Rio Grande and on the Pecos were simply catastrophic. In the case of the Taino/Pecos pueblos, the losses were on the order of above ninety per cent. Given that both Espejo (1582) and Sosa (1590) provided some evidence for drought on the Pecos steppes and that *cocolixtli* was linked to catastrophic drought in Mexico, perhaps this disease was also a factor in the demographic disaster for both the Taino and the Jumano.

The Oñate entrada is primarily of interest for founding Santa Fe and the entity that would become New Mexico; events tragic and colorful in equal parts. However the ecological impact of Oñate was profound, the first order being the decimation of Pueblo population. Secondly, the Spaniards shattered the aboriginal economy and supplanted it with one that turned the Pueblo into hewers of wood, carriers of water, and growers of corn subject to the interests of the Spanish minority. This in turn had profound effects upon the aboriginal groups to the east that had co-existed with the Pueblo in a relatively symbiotic relationship. The Spanish occupation destroyed the Taino agricardo on the steppe and replaced its products and relationships. Taino food production and intermediary trade disappeared, as did the buffer between Plains and Pueblo

¹³⁸ *Cocolixtli* killed everyone, not just American aboriginals. However, Marr and Kiracoffe noted that Old World diseases may have bestowed a “selective immunity on Spanish colonists and African slaves.” These communities, and they were segregated communities, had the lowest “attack rates”, far lower than the Indian and mixed population of Mexico. Marr and Kiracoffe (2000): 346, 352.

¹³⁹ Sauer (1980): 63, ff.

groups. Arguably the most important new component of this new New Mexico trade was the horse. As Francis Haines wrote:

Oñate's settlements, particularly Santa Fé, would furnish just the items necessary to encourage the adoption of horses by the Indians to the east—friendly contact through trade, ample supply of horses, and examples of the advantages of the new servants [horses]. From here the horses spread south, east and north like a giant fan, reaching the southern and eastern limits rather rapidly because of the shorter distance to be covered.¹⁴⁰

Haines implies that the Spaniards created the “friendly contact” of this trade axis, whereas this paper has shown the aboriginal development of the agricardo. Oñate merely decapitated the Pueblo and replaced Pueblo with Spanish interests. The major innovations introduced by the Spaniards were, I argue, unintentional. Corn had been a trade commodity since time immemorial in the Pueblo and steppe agricardos, drawing Indian traders from hundreds of miles. That the Spanish introduced other crops such as winter wheat did not radically alter that trade. Neither did the New Mexicans introduce manufactured goods that changed Plains aboriginal life or culture. It was the introduction of the horse, and crucially, the use of Indian servants to manage those horses that changed the culture of the Study Area groups.¹⁴¹

The second part of the equation was the mode of exchange. Spanish stockmen raised horses, but they did not trade them to ‘wild’ Indian any more than they traded firearms.¹⁴² Raiding had always been a component of Plains-Pueblo relations but before the horse the booty was restricted to what the raiders could carry away.¹⁴³ Horses became the booty, and raiding for horses became the new primary economic occupation of aboriginal groups north and east of the Pueblo, displacing bison hunting to second place. The horse increased the exchange of Apache trade of Pawnee/Plains slaves for horses.¹⁴⁴ The first mounted raids by Apacheans occurred in 1607 and, during a period of drought and famine in the late 1630s, raiding for horses and corn

¹⁴⁰ Haines (1938): 117.

¹⁴¹ Many of the sources surveyed consider the importance of aboriginal middlemen in passing horse culture and management from the Spanish to the horse Indians. Many of the first Indian horse owners adopted the Spanish saddle and reins, not to mention their horses.

¹⁴² The Spanish made it illegal for Indians to ride, much less own, horses. Francis Haines. "The Northward Spread of Horses among the Plains Indians," 429-37. *American Anthropologist* 40: 3 (1938): 429.

¹⁴³ John (1981[1975]): 36.

¹⁴⁴ Haines (1938): 431.

exploded. In 1640 “Apache raiders plundered” some 50,000 bushels of corn from New Mexico.¹⁴⁵ When a massive drought and famine struck the Southern Steppe in the 1660s, a wave of raiding and violence erupted and Fray Juan Bernal wrote that the:

whole land is at war with the widespread heathen nation of Apache Indians, who kill all the Christian Indians they can find...No road is safe...for the heathen...hurl themselves at danger like people who know no God nor that there is any Hell.¹⁴⁶

Hell is what the Pueblo must have resembled for in 1671 another plague erupted, “a great pestilence, which...carried off many people and [domestic] cattle.”¹⁴⁷ This could have been cow pox, but that disease is not fatal to cattle. Another possibility is brucellosis, which can destroy cattle populations and can be contagious across species.¹⁴⁸ This contagion wiped out the domestic cattle in New Mexico in conjunction with drought. Indian and Spaniard alike were reduced to eating their leather goods. Drought on the Steppe would have also driven away remnant bison populations close to the Pueblo.

New Mexico post-Oñate was a foment of the new and old, immigrant and aboriginal that played out in cultural and environmental terms. These various strands coalesced in the events known as the Pueblo Revolt of 1680, in which the Pueblo threw off their Spanish yoke, driving out or killing ethnic Spaniards. However the Spanish decapitation of the Pueblo, disease and drought, combined with persistent Apachean raiding had weakened the Pueblo beyond sustainability. The years between 1680 and the near effortless Spanish Reconquista completed in 1696 in New Mexico are an ahistorical era that set in motion great historical events in the Study Area. The Pueblo Revolt freed thousands of horses¹⁴⁹ and skilled horse-management aboriginals from Spanish control. The Spanish presence was eliminated from the Study Area allowing for a decade-plus of ungoverned aboriginal agency. Apache groups rose to a brief ascendancy around the Pueblo. The conjunction of these three developments allowed for a fourth; Ute transference

¹⁴⁵ Knaut (1995): 161.

¹⁴⁶ Fray Juan Bernal, “Testimony to Tribunal, 1669,” Charles W. Hackett, ed. *Historical documents relation to New Mexico, Nueva Vizcaya and Approaches Thereto, to 1773*. 3 vols. Translated by Adolph Bandelier and Fanny Bandelier. (Washington: Carnegie Institution, 1923-1937): v.3, 272.

¹⁴⁷ Fray Francisco de Ayeta “Petition of...” Hackett (1937): v.3, 302.

¹⁴⁸ For the connections between introduced animals, disease and aboriginal populations, see Alfred W. Crosby, *The Columbian Exchange: Biological and Cultural Consequences of 1492*. (London: Praeger, 2003[1972]): Chapters 1&2, and 87ff. And, Crosby. *Ecological Imperialism: The Biological Expansion of Europe, 900-1900*. 2nd ed. (Cambridge: Cambridge University Press, 2004 [1986]): Chapters “Animals”, and “Ills”.

¹⁴⁹ Quite possibly tens of thousands of horses.

of the horse to the Comanche. Within two decades of the Reconquista it would be the horse-borne Comanche who controlled the Plains gateways to New Mexico and the brief Apache ascendancy was over.

CHAPTER 5

Spain Approaches the Central Plains; 1706-1779.

In 1690 Diego de Vargas Zapata Lujan Ponce de Leon was appointed Governor of New Mexico. In 1692 he effected a peaceful Reconquista of New Mexico, and returned to El Paso to recruit settlers and Franciscan friars and Tlaxlacaan allies.¹ On returning to Santa Fe however they faced a re-armed pueblo. Vargas' second Reconquista began October 1693 and was as brutal as it was successful, setting in motion a decade of bloody resistance towards the Spanish by the Navajo and other groups, such as plains Apache or Faraones. Other agriculturalist Apache groups, such as the Jicarilla and Cuartelejo, were neutral or friendlier. Spanish-occupied pueblos such as the Picurías seem to have been generally quiescent.

One ally of the Spanish in their fight to gain control of the Pueblo was infectious disease. Disease had weakened the Pueblo in both raw numbers of populace and in the abilities of that populace to withstand other pressures such as drought and increased Apachean raiding. In the spring of 1693 an "epidemic of measles in its worst form" broke out in Chihuahua "where the mortality [was] very great."² Compounding the effects of the epidemic was yet another, or perhaps sustained, "lack of rain" that caused disastrous crops "from which hunger...resulted." The re-re-conquistadors were undoubtedly aided by this pestilence which "in the year 1693 destroyed a great part of the Indians, including some of their chiefs" resulting in "comparative peace and quiet."³

The Spanish would send out various expeditions to secure their northeast or Plains frontiers. In doing so they learned something of the region and its aboriginal inhabitants, but also learned that the French were pressing westwards from the Mississippi. The disastrous LaSalle Expedition of 1686 and accumulating evidence of French traders' activities on the

¹ The Tlaxcala are Nahuatl Indians from central Mexico; they had allied with Cortes against the Azteca, and remained allied with the Spanish 160 years later in 1693.

² The Spanish transcription reads, "en esta provincia esta al presente la epidemia ó Sarampión en su mayor fuerza[.]" Sarampión was and is the Spanish signifier for measles. "Letter of the Alcalde, April 22, 1693." In, Charles W. Hackett, ed. *Historical documents relation to New Mexico, Nueva Vizcaya and Approaches Thereto, to 1773*. 3 vols. Translated by Adolph Bandelier and Fanny Bandelier, (Washington: Carnegie Institution, 1923-1937): v.2, 314/315.

³ "Reply of the Fiscal, 1698." Hackett (1937): v.2, 453.

Southern Plains helped fuel a new era of Spanish argonaut activity in the Study Area. One Spanish tactic was to establish settlements on the edges of the Southern Plains, such as at El Cuartelejo on the *Arkansas River*; none of these would be successfully implemented. The Study Area would remain an Aboriginal place through 1800, and leave the American argonauts with almost as much mystery to unravel as the Spanish had faced initially. The “northern mystery” of the Spanish would become the “western mystery” of Thomas Jefferson’s American argonauts

Ulibarri, 1706: “the unknown lands of the plains.”

In 1700 the Borbón dynasty became established in Spain in the personage of Philip V. The Borbóns would rule uninterrupted over Spain and its American possessions until 1806, and significantly change the relationship between Spain and the approaches to the Southern Plains. Ulibarri (elsewhere, Uribarri) was the first Spanish argonaut to visit the Study Area after the Pueblo Rebellion. Sergeant-major Ulibarri was ordered by *Gobernador Cuerbó y Valdés* of New Mexico to enter

the unknown lands of the plains for the ransom of Christian Indians of the Picuríes nation; and the discovery of the new province of San Luís and the large settlement of Santo Domingo of El Cuartelejo, which is inhabited by innumerable tribes of pagan Indians, who are peaceful, and obedient to...the king.⁴

Using the term ‘ransom’ in relation to the Picuríes was an exercise in political correctness, for these were the Pueblo people who fled the Spanish *Reconquista*. The Spanish rather ‘purchased’ than ‘ransomed’ them from the Apache, and returned them to Santa Fe. To accomplish this mission, Ulibarri would take “[f]orty men ... and some groups of friendly Indians of different tribes [amounting] to one hundred Indians” out onto the steppes and then north to the *Platte River*.⁵ In so doing, he would cover ground Zebulon Pike “discovered” exactly a century later.

⁴ Juan de Ulibarri. *Diario y derrotero que hizo el Sarg^{to} Mayor Juan de Ulibarride la jornada que executó de orden del S^{or} Govern^{or} y Capitⁿ General de este R^{no} Don Franz^{co} Cuerbó y Valdes*, A.G.N., *Provincias Internas*, Tomo 36, Expediente No.4, fols. 131-140. (MS Copy, Bolton Collection, University of California). 59-66, in, Thomas, Alfred Barnaby, ed., *After Coronado: Spanish Exploration Northeast of New Mexico, 1696-1727; Documents from the Archives of Spain, Mexico, and New Mexico*. 2nd ed., (Norman: University of Oklahoma Press, 1935[1966]): 59. The “new province of San Luís” was the Arkansas steppes and plains of which the Spanish were still ignorant in 1706. The conquistadores had never known, much less conquered, the geography north and east of the Taos / Santa Fe nexus.

⁵ Ulibarri, in Thomas (1935[1966]): 60.

Ulibarri or a scribe kept the journal of this expedition and submitted it to Cuerbó on the expedition's return to Santa Fe. As with most New Mexico records, this journal was sent to Mexico where the original copy resides. Professor Bolton made a transcript, duplicated by Thomas, which is in the Bolton Collection, University of California.

Ulibarri is a useful source because of its mappability, and the strength of its observations on aboriginal situations and practices, as well as for displaying Ulibarri's penchant for noticing and recording environmental impressions. Historically, this account matters because it introduces the horse-mounted Comanche at the very moment they were beginning their conquest of the Arkansas Great Plains. This journal also reveals the great agrícardo El Cuartelejo, the Plains Apache world of large populations, extensive agriculture, and a perhaps surprising pueblo-like geographic persistence; more a city-state than a camp. Ulibarri's account also fixes El Cuartelejo in terms of its extensive trade relations and reveals the heart of the Great American Desert to have been an edenic environment. He also gives perhaps the first historical description, if second-hand, of actual desert-like regions in the Study Area.

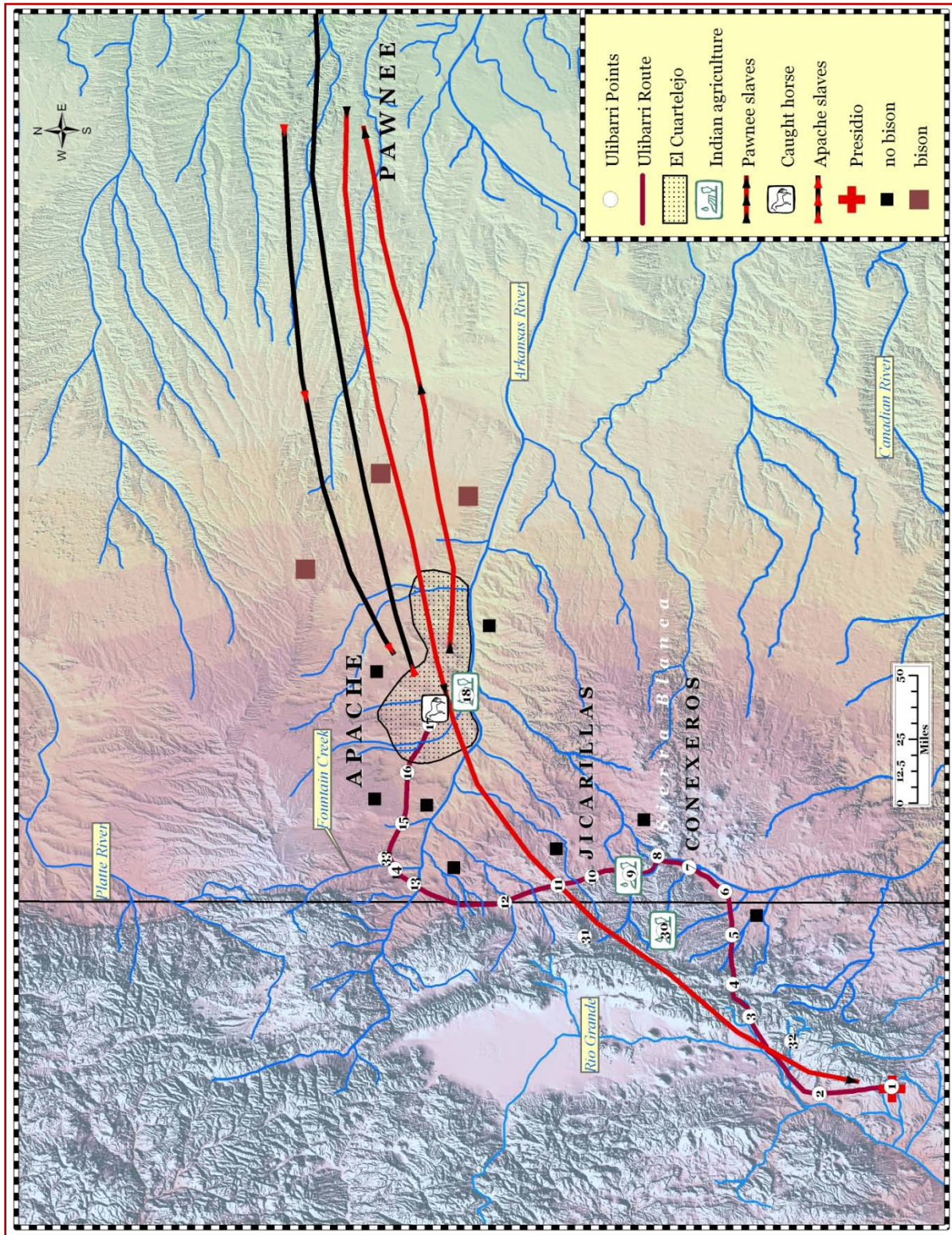


Figure 5.1. Ulibarri Route & Data, 1706.

Tuesday July 13, 1706, Ulibarri set out from Santa Fe [**Point 1**] with his well mounted 140 member party. They marched northwards through La Cañada, then the Tigua pueblo of San Juan [2], through the Picuríes' pueblo of San Lorenzo, reaching Taos pueblo on July 15th [3]. The Taoseños were preparing for an imminent attack from “infidel enemies of the Ute and Comanche tribe.”⁶ On July 20th they set out and “crossed...part of the mountains at their highest summit...down a canyon [and] along a river which they call Don Fernando.”⁷ Eight leagues from Taos they reached a “very delightful valley...which they call” La Cienguilla [‘hundred eagles’] naming that valley, and by extension the peak to the east [4]. They likely bore north as they encountered many marshes.

On 21st they marched to the east, climbing through a mountain pass, then down through a valley and onto the steppes, from which they could view “the plains ... and the unknown land with its trails.” They crossed a river and arrived at another, “very pleasant and larger” [5], the two branches of the *Cimarron River*. Here they encountered Indian groups, presumably mounted, from the Rio Colorado [Canadian River], the Conexeros, who warned them of the “Penxayes, Flecha de Palo” and other Apachean groups on the road to the north.⁸ Elizabeth John makes the encountered group to be Jicarilla Apache, but this is somewhat problematic since the dangerous groups when encountered will prove to be Jicarilla.⁹ Simply changing the ‘x’ to a ‘j’ yields Conejeros, or Rabbit People.¹⁰ This makes these people of the Lipan Apache group, and more likely antipathetic towards the Jicarilla.

July 22rd they marched north crossing streams, some of which were swollen. They had problems crossing one stream and tried making a bridge out of the many poplars that lined the banks. Ulibarri recorded 8 leagues travel, but it is now becoming clear that the league

⁶ Ulibarri, in Thomas (1935[1966]): 61. As editor Thomas noted (*n* 8, 262), this is the first recorded mention of the Comanche in the Spanish, and therefore likely Euramerican, record.

⁷ Ulibarri, in Thomas (1935[1966]): 62. This is the Rio Pueblo de Taos River. It is passing strange that the Spanish had yet to settle on a name for this stream so central to New Mexico affairs.

⁸ Ulibarri, in Thomas (1935[1966]): 63.

⁹ Elizabeth Ann Harper John, *Storms Brewed in Other Men's worlds: The Confrontation of Indians, Spanish and French in the Southwest, 1540-1795*, (Lincoln: University of Nebraska Press, 1981[1975]): 228. Editor Thomas does not speculate on these groups. The Rabbit moniker derived from the Lipan's favored housing, pit houses with brush roofs.

¹⁰ H. Alan Anderson, “Conejero Indians.” The Handbook of Texas Online. <http://www.tshaonline.org/handbook/online/articles/CC/bmc82.html>. Accessed May 6, 2010. This may have been one of the last encounters with the Conejeros as a distinct group; they will disappear before the coming Comanche invasion.

measurement does not here apply; even unburdened by carts and animals they were not able to take the most direct routes because of terrain.¹¹ It is situations like this that force the mapper to consider that Spanish argonauts were not following roads, but rather making them. They were forced to go upriver to find a firm fording site, and camped after doing so [6]¹².

July 23 they made interesting observations regarding the geography and the aboriginal population. After marching to the north, they crossed the Río de Santo Catalina, or *Canadian River*, here flowing out of the mountains and beginning its run to the south [7]. Here, “heathen Indians of the Xicarilla, Flechas de Palo, and Carlanas tribes” came down from the highlands under the leadership of Ysdalnisdael,¹³ elsewhere called El Coxo [The Lame One] by the Spanish. These are, of course, the same groups Ulibarri was warned about by the Conejeros. This is one of the first recorded mentions of the Jicarilla Apache. Ulibarri identified these mountains as the Sierra Blanca, naming them in so doing. This range [also known as Jicarilla Mountains] juts out onto the plains from the *Sangre de Cristo Mountains* and divides the headwaters of the *Purgatoire* to the north from those of the *Canadian* to the south.

A “Chief Ucase” said that when the Spaniards returned they should visit and enjoy raisins, corn, beans, and squash as they were all grown or harvested in the fields above. I make the ranchería location to be near the headwaters of the *Canadian River* at the *Penaflor Ruins* site [30]. The Thomas text has it that Ulibarri was told the Jicarilla were then sowing in July, rather than harvesting, “corn, frijoles and pumpkins.” This may well be a problem of the text, however, as American corn farmers generally want their crops ‘knee high by the Fourth of July’ if they are to ripen. More likely it is evidence of a second crop intended to provide green corn. These crops constitute the well-known Three Sisters mode of historical aboriginal agriculture, evidence of a Type B agriculture.¹⁴ Ulibarri was told that on his return in the autumn, he would be able to enjoy the results of these efforts. Ucase also promised

¹¹ It is impossible to say if the Ulibarri expedition had carts or not, but there is no evidence for them or the ‘food on the hoof’ the Spanish usually carried with them.

¹² Ulibarri, in Thomas (1935[1966]): 63. I make this out to be the marshy lands around *Maxwell, NM*.

¹³ Ulibarri, in Thomas (1935[1966]): 63.

¹⁴ The Three Sisters, corn, beans and squash,

raisins which they always preserved for the most worthy Spaniards ... and that they were supplying them [to] all the tribes that were living along the banks of all the streams I had seen and others that I had failed to cross and others that I will meet further on[.]¹⁵

This is evidence of large-scale exploitation of wild grapes (*Vitis vinifera*), and counters the notion that “[g]rape culture in New Mexico dates back to the coming of the early Spanish settlers.”¹⁶ Plains Apache culture is woefully under-represented in the literature, presumably because of the problem of sources regarding all Plains peoples.

On July 24th they marched ten leagues, climbed *Old Raton Pass*, and passed “the ridge of La Jicarilla” on their right.”¹⁷ This differentiates the ridge extending onto the plains from the Sierra Blanca, and connects the Jicarilla geographically with this point [8]. With raisins on his mind, Ulibarri began to pay more attention to native plants. On the 25th, they descended into a

very broad high, and deep canyon with good flatlands, to which I gave the name of Canyon of Ulibarri. A fairly large pleasant stream runs its entire length [northwards], bordered with poplar groves, many prunes¹⁸, a fruit resembling a cherry, with wild grapes.

He admitted here that “these same fruits” also grew on “the rest of the streams” so far encountered.¹⁹ This day provides key geographical data in that they struck in the evening the “Rio de Santa Ana, which runs...from south to north.” This locates them on the *Purgatoire River*, the first major stream to run north to the *Arkansas River* [9]. On the banks of this river the “heathen Apaches of the tribe called Penxayes have much land planted to corn, frijoles, and pumpkins.”²⁰ These people came down to “the foot of our mesa,” very concerned about their crops. Ulibarri assured them he would permit “no injury to be done to their fields.” On the 26th they continued north ascending a steep hill [10] they called the Nombre de Dios, now *Black*

¹⁵ Ulibarri, in Thomas (1935[1966]): 64.

¹⁶ Esteban Herrera, “Growing Grapes in New Mexico.” NMSU College of Agriculture. http://aces.nmsu.edu/pubs/_circulars/circ483.html. Accessed May 6, 2010. The Spanish would introduce European cultivars, but it seems likely that aboriginal groups were capable of manipulating nature to enhance grape production.

¹⁷ Ulibarri, in Thomas (1935[1966]): 64.

¹⁸ Plums, of course. Likely either Sand Plum (*prunus gracilus*) or Mountain Plum (*Prunus augustifolia*); both grow in the region and have fruit that ripens in summer. “Mountain Plum” takes its name from the Chickasaw Mountains. Julia A. Jordan, *Plains Apache Ethnobotany*, (Norman: University of Oklahoma Press, 2008): 76-7. Plains Apache boiled the ripe fruit, mashed it to pulp, drained off the fluid, and then dried the pulp into patties they called “dog paws” or “dog tracks”. The “dog tracks” were then sun-dried on a hide, and apparently would keep for months.

¹⁹ Ulibarri, in Thomas (1935[1966]): 64.

²⁰ Ulibarri, in Thomas (1935[1966]): 64.

Hills. For the first time their Indian guide became lost, both giving some idea of the rough terrain they crossed and demonstrating the fallibility of aboriginal guides in unfamiliar terrain.²¹ During the day they crossed the *Apishapa* and *Cucharas Rivers*.

The 27th was an eventful day in several senses. First, they provided some key geographic knowledge. Now at the base of the Sierra Blanca they noticed to their left “two little hills very much alike, sharp and pointed [Ulibarri named] Las Tetas de Domínguez”, or the Tits of Sunday. This name is peculiar only in that they were first sighted on a Tuesday [11]. These promontories, now more prosaically styled the *Spanish Peaks* [31], would guide future argonauts along the *Santa Fe Trail*. They became visible as Ulibarri moved out and around the headlands. In the evening they camped on the *Huerfano River* [12]. This day they encountered a Penxayes Apache family who told them they were going to warn their tribe “in order to defend themselves together from the Utes and Comanches, who were coming to attack them[.]”²² This may be the first textual reference to Comanche ever recorded. Presumably, the combined Utes and Comanches were at that time raiding northwest of this position; they had not yet moved down the *Arkansas River* onto the Plains, as Ulibarri’s free passage indicates.

On the 29th they left the *Huerfano* travelling north and crossed two arroyos, the arms of the *St. Charles River*, reaching the river “which all the tribes call the Napestle” in the evening, naming that river from the Spanish perspective.²³ They covered 12 leagues, precisely 36 miles by the ArcMap Measure tool, proving again the usefulness of the three-mile league. This day they encountered another Penxayes girl who was gathering “cherries.”²⁴ Ulibarri demonstrates that the territory he covered along the steppes was, while not uniformly populated, thoroughly utilized by Apachean groups for both agricultural and gathering activities. Seemingly all the Apachean rancherías below the Napestle were located in the mountain valleys above the Steppes,

²¹ The Spanish records are full of incidences of lost guides in unfamiliar places. No indication here that the guides were purposely lost as they certainly sometimes were. Ulibarri did not follow Coronado’s example of torturing and killing these ‘lost souls’.

²² Ulibarri, in Thomas (1935[1966]): 65.

²³ Ulibarri, in Thomas (1935[1966]): 65. Unfortunately, no explanation or translation is given by Ulibarri. Elsewhere he is given credit for naming this river, likely resulting in more fruitless searches of Spanish dictionaries than my own.

²⁴ These would indeed have been cherries. *Prunus serotina*, a fast growing and sun-loving hardwood, grew throughout Texas, and in pockets in New Mexico. Thrives in open area on coarse soils, and has a low resistance to fire. United States Department of Agriculture: Natural Resources Conservation Service. *Prunus serotina* Ehrh. <http://plants.usda.gov/java/charProfile?symbol=PRSE2> . Accessed 10 May, 2010.

or further out along the river valleys on the plains. Ulibarri said the Napestle here ran “from north to east”, and that it was four times broader than the Rio del Norte. This means they struck the river above *Pueblo, NM* where the river runs west to east for some twenty miles [13]. They crossed to the north bank and Ulibarri was “particularly surprised to observe that the time taken to cross it was about the equivalent of thirty-three Cremos recited very slowly;” in other words, it was very broad and shallow.²⁵ Historical descriptions like these reveal the folly in presuming that present-day environmental facts mirror those of the argonauts; today’s tamed Arkansas River is quite different from the 18th century Napestle. We can fix his crossing point quite well because of this day’s and the next’s travel data.



Figure 5.2. Arkansas River at *Pueblo NM*, September, 2008.

Ulibarri described this point as something of a paradise, perhaps strangely uninhabited. The valley on the north was “a strand of a long league [four miles?] of level land and extremely fertile as is shown by the many plums, cherries, and wild grapes which there are on it.” The river

²⁵ Ulibarri, in Thomas (1935[1966]): 66.

here bathed “the best and broadest valley discovered in New Spain...with many poplar trees and...the upper part most beautiful open stretches.”²⁶ Ulibarri made no mention of animals or any signs of human habitation here. Given this location, which will be shown to be a veritable freeway for various aboriginal - and eventually euramerican - groups, the fact that no one group chose or dared to settle here is understandable. Left unexplained is how such paradise was maintained environmentally. Since all areas along the upper *Arkansas River* become covered in brush and cane when left untended [Figure 5.3], unburned or un-grazed, it is obvious some collection of forces kept this fertile valley open and clear. As noted throughout this paper, fire must have played a role along with bison grazing in keeping these areas clear, but only one mention of fire by argonauts to 1820 has yet been found.²⁷



Figure 5.3. Unfired: Upper Arkansas Valley, September 2008.

²⁶ Ulibarri, in Thomas (1935[1966]): 65-66.

²⁷ Castaño de Sosa, 1590, Indian set fire on the Pecos in December. Seasonality accounts for some of this as most argonauts travelled away from winter and high summer both. However, various argonauts did see parts of the Plains at all seasons, Vial for instance. My guess is that there was aboriginal firing both environmental and for military purposes, but that bison were a powerful force in range management prior to 1800.

On the 30th they left the Napestle travelling northeast and struck the Rio de San Buenaventura, *Fountain Creek*, after twelve miles [14]. They rested here on the advice of their guide who warned them of “much suffering because there was no water” for a distance to the east.²⁸ On the 31st they marched northeast, avoiding *Baculite Mesa*, their guide taking his “direction from hummocks of grass.” This translation has these being of human construction, but likely these were the mounds east of *Fountain Creek* noted by later argonauts. These mounds appear to be remnants of *Baculite Mesa*, as they surround that form in an array to the north along *Fountain Creek*, and to the east above the *Arkansas River* for several miles. These mounds get larger as they near the mother formation. The most distinctive group, as pictured below, are known as *The Buttes* and located at N38° 36.19" W104° 39'.68" (Fig. 5.4). Ulibarri likely turned east at the southernmost of these, given his mileage [33].



Figure 5.4. “Hummocks of grass”: The Buttes.

²⁸ Ulibarri, in Thomas (1935[1966]): 66.

In spite of these landmarks their guide soon became so lost that the “Indians, according to their shallow natures [becoming] overcome with fear to such extreme despondency that they almost wept.”²⁹ Scouts ranging ahead found water “which filled the whole camp with joy, and many thanks were given to God,” presumably demonstrating their superiority over the “shallow natures [of] the Indians.” It is unclear why they were in such dire straits half a day from *Fountain Creek*, although they were heading out into a land of intermittent streams in high summer. Ulibarri unfortunately did not discuss ‘normal’ weather.

On reaching this spring they camped, possibly on *Haynes Creek* [15]. Ulibarri would leave “eighteen mules and horses” here to recover and be retrieved on their return. Ulibarri had no way of knowing they were at most fifteen miles north of the multitude of springs, creeks, and small lakes along the Napestle River valley, but the panic of his guides is surprising. Presumably the Napestle valley was impassable because of some aboriginal presence, but their transit above the river on these serene summer plains within a half-day’s march of the “the best and broadest valley discovered in New Spain” must remain a mystery.³⁰ These observations suggest aboriginal territories bounded by watersheds. Any visitor to this region must wonder why this party and the Apache generally did not follow the Arkansas rather than wander the blasted plains above the river. Probably the *Arkansas* valley was bounded by distinct Apache groups to the north and south and that the valley itself was a commons or dangerous no-man’s-land.

On Sunday, August 1 they set out to the east, and somehow immediately became lost again even though the big timbers along the *Arkansas River* were visible from at least fifteen miles to the north. During the day they encountered “a sand bank and a dry arroyo with many poplars.”³¹ This establishes that when Ulibarri used ‘arroyo’ he employed the common meaning, a cut with water as opposed to a dry canyon. This was also the first iteration of sand dune observations in what would be termed the Great American Desert. Perhaps they were crossing

²⁹ Ulibarri, in Thomas (1935[1966]): 66.

³⁰ Tracking their plotted route versus a route from Pueblo along the Arkansas River valley reveals that they would have added some thirty miles to their travels in following the river. Of course the overland route was both more direct and flatter a route and may have saved a day or two’s travel. Still, security seems like the most likely reason for their choice of route.

³¹ Ulibarri, in Thomas (1935[1966]): 67.

Big Sand Hole, CO [16].³² They found a spring and camped there, noting it was a “stopping place of the Apaches.” Ulibarri, an inveterate namer of places in the Spanish fashion, called the camp San Ygnacio.

On the 2nd, tired of his guides becoming lost, Ulibarri sent them ahead, and remained at San Ygnacio. The scouts stumbled upon the first Apache ranchería, “called Tachichichi.” The text becomes hard to follow at this point, and Ulibarri’s distances and directions suffer in the general excitement of encountering the great concentration of Apache rancherías, the collection and location of which was known as El Cuartelejo; the best translation of this being some combination of The Capitol/The Barracks. El Cuartelejo was a collection of large rancherías centered on the well-watered and fertile land above the Napestle and below the Plains.³³

On the 3rd they travelled eight leagues east to a major spring, then turned southeast and reached “the outlet of San Miguel, which is just before the ranchería of Tachichichi”³⁴ at the junction of *Adobe Creek* and the Napestle [17]. Despite Ulibarri’s not mentioning the larger river, his descriptions favor the valley of the major river.³⁵ Here the “river valleys are quite large and pleasant and of much fertility... in their streams many delicious fish, such as catfish, spotted fish [trout?], and many mussels,³⁶ and also other species of fish.”³⁷ Presumably, Ulibarri noted the shellfish because the Apache used them as food and or ornamentation.³⁸ When Bent’s first fort was constructed nearby nearly a century later this area was ‘unoccupied’. The physical

³² There are of course today numerous places along the Arkansas where the underlying sands can be observed. Big Sand Hole is a permanent marker they may well have encountered. Distance and location are appropriate.

³³ Environmental historians will be familiar with this geographic as being near the heart of what would become known as the Dust Bowl. Now, Crowley County, Colorado.

³⁴ Ulibarri, in Thomas (1935[1966]): 68. Possibly “the outlet of San Miguel” was the mouth of the larger Purgatoire, cross stream and a few miles downriver.

³⁵ Other writers make El Cuartelejo out to be on the Smoky Hill River, however, reaching the flowing Smoky Hill would have added at least a hundred miles, making this choice flatly impossible. See, James Sherow, “Water”, 845-850, in Wishart (2004): 845. And, Calloway (2003): 168. Both writers place the site in western Kansas where there is archaeological evidence of pre-historical townsites with irrigation schemes, *agricardos*, in other words. However, in 1706 Ulibarri did not go that far east.

³⁶ There are, or were, some 300 species of freshwater mussels in North America, many of the survivors now imperiled. Most of the American varieties are associated with the Mississippi River drainage system. Most species prefer sandy or rocky clear-water courses, such as the Ouachita River.

³⁷ Ulibarri, in Thomas (1935[1966]): 67.

³⁸ Apache name and usage unknown, but the Comanche had a word for shells, *uacó*. It appears that the Comanche may have had a prohibition against the consumption of fish and shellfish. Manuel García Rejón, *Comanche Vocabulary*, Translated by Daniel J. Gelo, (Austin: University of Texas Press, 1995[1865]): “shell”, 42.

region occupied by the El Cuartelejo Apache amounted to a large bowl of some several hundred square miles draining from northwest to southeast. While there are today occasional sand reefs and area maps teem with “intermittent water” signifiers, there are also many pools and lakes of all sizes, and year-round streams. The *Arkansas* valley here is today crosshatched with irrigation and drainage canals.

At Tachichichi, Ulibarri found out that a French trader and his pregnant wife had been killed nearby four days previously. The Apache had taken the trader’s scalp, “large gun and the rest of the spoils.”³⁹ In discussing this action, it was revealed that a Frenchman, Juan de Archévèque, travelled with the Ulibarri party, possibly as a guide.⁴⁰ The Apache called the French, “the other Spaniards,” apparently not having any real reason yet to differentiate between euramerican groups. The deceased French man had been travelling with Pawnee, apparently intending to attack the Apache “at the time when they were going out to hunt buffalo meat to entertain” the Spanish. However, the Pawnee and French had retreated on learning that a Spanish force was near.⁴¹ Ulibarri and company were invited to go and fight the Pawnee, but declined as their orders forbade such excursions. While at Tachichichi the Apache were generous hosts, laying arms aside and bringing “much buffalo meat, roasting ears of corn, tamales, plums, and other things to eat.”⁴² The Apache all professed to be Christians, and had a large cross to prove it. They were enemies of the “barbarous tribes of the Pawnees and Jumanos.”⁴³ Ulibarri here found the first Picuris.

On August 4, 1706, Ulibarri in company with the Apache set out and climbed to the top of “the last hill,” where they found a “most holy cross the Apaches had set up.” They moved their camp to this spot to avoid the dangerous crush of “heathen who were coming every hour from the different rancherías.” Ulibarri remained here through the 12th of August, naming the spot San Lorenzo, otherwise El Cuartelejo [18]. While the scouts visited the outer rancherías to

³⁹ Ulibarri, in Thomas (1935[1966]): 68.

⁴⁰ Ulibarri, in Thomas (1935[1966]): 70. Archévèque was a survivor of, perhaps the betrayer of, the LaSalle expedition. Rescued by the Spanish in 1689 he then lived in New Mexico as a merchant. Thomas (1935[1966]):n 24, 264.

⁴¹ Ulibarri, in Thomas (1935[1966]): 70.

⁴² Ulibarri, in Thomas (1935[1966]): 68.

⁴³ Ulibarri, in Thomas (1935[1966]): 68. Editor Thomas, and Elizabeth John, agreed that at this time Jumanos referred to the Wichita.

summon the Picuríes, Ulibarri conversed with Apache leaders and produced a summation of his impressions of El Cuartelejo.

The Apache, Ulibarri opined, “were more inclined toward our Catholic faith than any of all those that are thus reduced”; a curious if revealing turn of phrase describing conversion. Many Apache carried crosses, claiming that thinking of “the great Captain” helped them in battle, and knelt every time they saw the Spaniards “worshipping the rosary,” and queued to kiss the padre’s sleeve after.⁴⁴ More prosaically, from years of important trade and commerce with the Spaniards, the Apache had realized through their rituals the Spanish were “very valiant; that there is no nation that can conquer them.”

“The second thing” Ulibarri noted was:

the great fertility of the land and its good climate, for at the end of July they had gathered crops of Indian corn, watermelons, pumpkins, and kidney beans. It was [speculated, not observed] that crops of wheat would be ready before the day of San Juan. So that, because of the fertility of the land, the docility of the people, and the abundance of the herds of buffalo and other game, the propagation of our holy Catholic faith could be very much advanced.⁴⁵

This passage is evidence of the rapid integration of Spanish agricultural practice into Apachean. It is most likely that the watermelons were of Spanish origin, introduced, along with peaches and apricots by colonialists between Onate and the Pueblo Revolt in 1680.⁴⁶ Horses were not the only item ‘released’ into the Study Area. Given the variety of crops and produce and the great population these crops supported, El Cuartelejo had Type C agriculture.

Ulibarri’s also placed El Cuartelejo in its geopolitical situation. He noted it was the Apache who named the Napestle River. Four other principal rivers defined the Apache world. The “Second”, Nisquisandi, I make out to be the *Canadian*, since it has already been observed as being a major part of the Jicarilla Apache cosmos. On the third, the Sitasche, the Pawnee lived in “two large rancherías”; this is without doubt the *Republican* and *Platte* system. Sensibly, the fourth river, Daenasages, was the river of the Osages. The fifth was the “Nasatha ... much larger than ... the Napestle”; this being the Mississippi. Here lived the “other Spaniards,” who traded with all the Apaches’ enemies:

⁴⁴ Ulibarri, in Thomas (1935[1966]): 72.

⁴⁵ Ulibarri, in Thomas (1935[1966]): 72.

⁴⁶ Carl O. Sauer, *Seventeenth Century North America*, (Berkeley: Turtle Island, 1980): 63.

There are more people than live in New Mexico although the [the Apache] cannot say if they are English or French. From these they buy many things such as hatchets, swordblades, arquebuses, copper things.⁴⁷

The Apache seemingly defined their world through their relationships with their enemies, as opposed to friends. They received no firearms from the Spanish, although firearms did not at this point seem to have the import they would later achieve. They were loath to part with the weapon seized from the French trader, and demanded replacements in kind. They had as a group, “other firearms and among them three carbines which they said they had taken from the Pawnees” in various actions.⁴⁸

Ulibarri also addressed the issue of slavery, a subject very hard to get at:

The Pawnee Indians ... sell to the [other Spaniards] the Apache women and children whom they take prisoners as they themselves sold to us those of the Pawnees they captured. So it is inferred that [the Pawnee] are very close to the French or Dutch, or whoever they are.⁴⁹

I represent this trade in slaves by the polylines ‘Slave Trade’. The taking and trading of humans was then a major part of the Southern Plains political economy, and it would become a major factor in the Comanche cultural economy as they used captured others to maintain and build their own population.⁵⁰ The Apache approach to slaving is interesting. First, the Apache engaged in the capture and trade of Pawnee as a commercial venture. Their willingness to divest themselves of the Picurías made clear that despite their decade in the *Apachería* the Picurías were still outsiders and not adopted Apache. However, Ulibarri also revealed they had numbers of horses and were making the leap to Plains horse culture. The Apache did not at this time require additional population, and slaving was a long-standing practice⁵¹ unrelated to the initial adoption of the horse.

From the evidence in Ulibarri, El Cuartelejo was a great *agricardo* in 1706, and it would remain so at least until Bourgmont’s enterprise in 1724. Supported by large scale agriculture, El Cuartelejo drew aboriginal and euramerican trade that spanned the Plains pre-horse. Slavery was

⁴⁷ Ulibarri, in Thomas (1935[1966]): 73.

⁴⁸ Ulibarri, in Thomas (1935[1966]): 74.

⁴⁹ Ulibarri, in Thomas (1935[1966]): 74.

⁵⁰ Pekka Hämäläinen, *The Comanche Empire*, (New Haven: Yale University Press, 2008). Discussion throughout, but particularly, 254-259.

⁵¹ Calloway (2003): 205.

a major part of this trade, as were increasingly firearms and horses. Ulibarri may have observed the nascence of the horse trade, which would be well established by 1724.

Ulibarri betrays some of the Spanish geographic assumptions of the time in asking the Apache “about the seas to the north and east.” The Spanish were convinced that the great rivers, the *Mississippi-Missouri* chain, sprang from an inland ocean, and further that the eastern sea, *Hudson’s Bay*, was close enough to New Mexico to pose a threat of English invasion. The Apache responded that they had no experience of the oceans, but that they knew about them from other tribes. To the north there was a tribe called the Pelones, meaning ‘The Bald Ones’, reached only by crossing three days “without grass, for on the way [there are] only sand dunes of very fine sand.”⁵² One hundred and twenty miles directly north of El Cuartelejo on the *Platte River* there are extensive sand hills.

On Friday the 13th August, Ulibarri set out for Taos, taking with him “sixty-two Picuríes” he had purchased from the Apache for the, “present of thirteen horses [which] were considerably footsore and I could not bring them back. The chief prized this present highly and remained very satisfied.”⁵³ A trade ratio of four Picuríes per horse indicated the animal’s value at that time. Unfortunately Ulibarri otherwise made no observation of horse numbers at El Cuartelejo. They re-traced their track and stopped “on the waters of San Bartolomé.” Tuesday the 17th they regained *Fountain Creek*. From here they re-traced almost exactly their route out. August 27th they arrived at the campsite of July 24th [7], where they had left horses with the Jicarilla. They got their horses back, along with news that “Utes and Comanches had attacked two rancherías,” one in the Sierra Blancas, and one the “Penxayes tribe.”⁵⁴ The earlier warning about an impending attack had been accurate. This perhaps was the opening salvo in the Comanche assault upon the Plains Apache. Ulibarri returned without incident to Santa Fe, and delivered his journal to Gobernador Curbó y Valdéz on September 2, 1706.

⁵² Ulibarri, in Thomas (1935[1966]): 74.

⁵³ Ulibarri, in Thomas (1935[1966]): 74.

⁵⁴ Ulibarri, in Thomas (1935[1966]): 76.

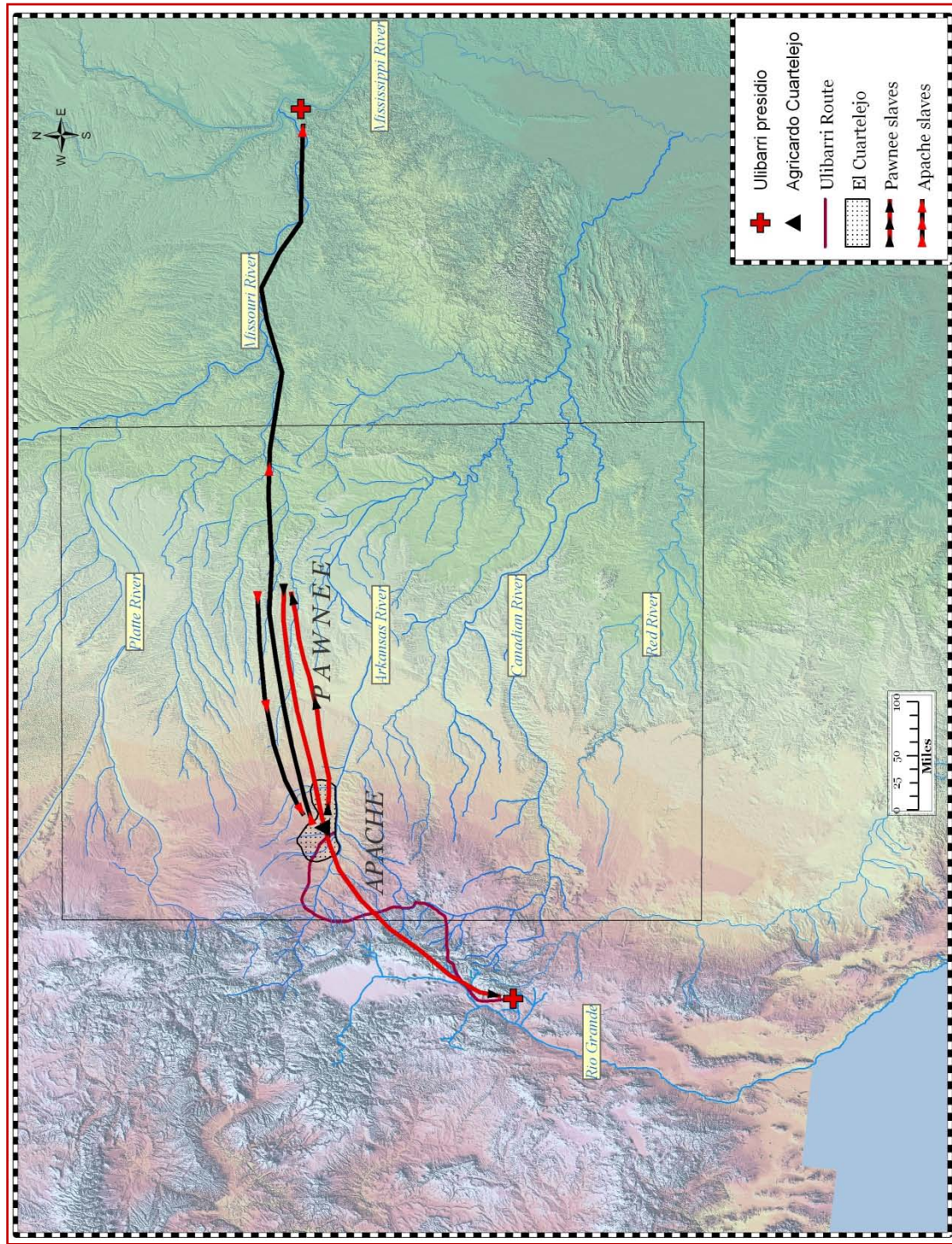


Figure 5.5. Ulibarri: Agrigardo and Presidio.

Ulibarri affords us a snapshot of the Apachería as it existed on the Central-Southern Plains at the moment before Comanche imperialism triumphed over that geographic. The

Comanche in creating their own Plains cosmos would also destroy that of the Apache. The Apache cultural economy was based upon three pillars; intensive agriculture, access to the great mass of ungulate protein and hides provided by Plains bison, and trading in commodities deriving from the above activities and from opportunistic capture and trade of Pawnee as slaves. We can only surmise at the populations of the various rancherías from his records. In El Cuartelejo alone there were several thousands of Apache distributed among several rancherías. Fewer Jicarilla and other groups live on the slopes of the *Sangre de Cristo* Mountains. While there were connections between various Apachean groups, they were distinct, often competing, entities. A reasonable estimate is that 10,000 Apache inhabited the western slope of the Study Area between the *Arkansas* and *Canadian* rivers in 1706. This figure does not include a nomadic Plains Apache population, as reported by Coronado and other argonauts who found them on the Plains below the *Canadian*.

The same cautious approach must be taken with caught horse populations. The Apache world view had embraced the horse to a point that they thought the *Platte* sand dunes to the north were but three days travel away, a minimal distance of 100-140 miles. Their raiding pattern towards the Pawnee involved a round trip distance of 400-500 miles. They reported this was a trip of some few days, and not weeks. Horses were still a rare and valuable commodity for the Apache. Ulibarri counted and mentions seemingly every horse he had or left behind, and when the time came to return the Picuríes he scrambled to find horses to make the trip. The return journey was structured to pick up valuable animals left behind, evidence of their value even to the Spanish. Ulibarri did not have a plethora of the animals. Ulibarri never mentions horse numbers among the Apachean groups on his journey, meaning he never saw a surprisingly large, herd. Neither did he mention an absence of the animals, meaning that all groups encountered had some. Ulibarri traded thirteen horses for sixty-two Picuríes, indicating the relative value of horses and non-adopted humans to the Apache. At no point did Ulibarri mention feral horses. Caught horses were then dispersed from the presidios north to the Napestle and beyond, but were still rare. There were no herds of hundreds or thousands of horses in the Apacheria in 1706. It seems likely that the Apache outnumbered their horses at this point in time.

Another consideration was agriculture. Unlike the nomadic Plains Apache, the El Cuartelejo Apache placed agriculture over hunting, or at least accorded the two equal importance. Caught horses, tamed but unfenced, and intensive agriculture do not co-exist well.

That the El Cuartelejo Apache were a sedentary agricultural people is made clear in one Ulibarri observation. The Picuríes had lived among the Apache for a decade plus not in tents or hogans, but in houses.⁵⁵ To construct adobe houses and maintain residence in them suggests that Apache agriculture was based on permanent occupation of a site where the soil was continually renewed through seasonal inundations of riparian flatlands. This group is almost absent from the literature which focuses on Apache groups of the intermountain, and the more historicized Comanche who would soon seize these lands. The Plains Apache await their historian.

Ulibarri saw bison on the flats around Fountain Creek. There were no sightings along the Napestle Valley. The Apache sallied out of El Cuartelejo to hunt; some Picuríes went so far afield that they could not be found in time to be returned. At no point did Ulibarri report overgrazing or lack of grazing. The combination of these impressions reveal that, perhaps surprisingly, it was not the fertile and well-watered mixed-grass lowlands that appealed to bison. The animals were to be found up on the Plains, in the aggregate millions no doubt, but they did not blanket either the *Arkansas* plains or *Canadian* steppes in the summer of 1706. Later argonauts would report bison here at this time of year, and 1706 may have been an anomaly. However, the presence of the El Cuartelejo Apache may then have been sufficient to influence bison presence. I take this as part of an accumulating body of evidence that the Great Plains were not covered in bison, but that the animals were more generally dispersed, and in smaller agglomerations, than would be the case in the 1800s. However the fact that Ulibarri's progress was never impeded by brush suggests the steppes were grazed, likely seasonally, and regularly fired as well. Ulibarri reported no incidence of natural or human-set prairie fire.

Weather was, but for one incidence of a large storm, an unreported factor. All aboriginal crops and plant gathering seemed to be thriving. The plains east of *Fountain Creek* were the one place where they struggled to find water; all those many intermittent streams on the map were dry in July 1706. Significantly, they seem to have not been troubled by lack of water on the return journey as the much larger group fairly flew over this turf; their horses were as fresh on

⁵⁵ As editor Thomas noted, a later expedition, that of Valverde, would also report "houses", casitas, at this location. Later testimony of one of Ulibarri's compatriots also reported seeing adobe ruins at El Cuartelejo in 1706, "made a long time ago by the Taos tribe." The paradisiacal environment at El Cuartelejo had apparently existed then long before the advent of the horse. Thomas (1935[1966]):264, *n* 22.

return as they were jaded on the route out. Ulibarri also reported high waters around the *Canadian* on return, and this indicates an autumnal rainfall along the steppes.

Hurtado: Río Colorado, 1715.

Following close on the heels of Ulibarri, both temporally and geographically, was the Spaniard turned New Mexican, Juan Páez Hurtado.⁵⁶ After decades of battling the Navajo, Hurtado marks the beginning of New Mexican campaigns against former allies, the Apache. This was the first expedition against what would become known in the literature as Eastern, or sometimes Plains, Apache; Hurtado identified them as “Faraones.”⁵⁷ The Faraon seem not to have been persecuting the Spanish New Mexicans, but rather enthusiastically raiding for horses from the Pueblos. A council of war led to the Hurtado Expedition. Hurtado was to lead “thirty-seven soldiers, eighteen settlers, and one hundred and forty-six Indians [Picuríes, Tigua, Taos]” fully supplied and with hundreds of horses against the Faraon.⁵⁸ The Faraones lived to the east in a ranchería “composed of thirty houses of wood entirely smeared with clay outside, which is located on the banks of a river [after] ten days of marching” from the Picuríes pueblo.⁵⁹ As it turned out, Hurtado would confirm the Spanish ignorance of their closest enemies as the party set out to punish Faraon rancherías while they were away on the plains during their annual bison hunt. While Hurtado was an abject failure militarily, it provides some reasonable surety geographically, and yields important data on the people and environment of the *Canadian River* circa 1715. Fortunately, Hurtado kept a journal of this expedition, and all the records of the war council as well as lists of the Spanish and Indian participants exist in the archive. The letters and

⁵⁶ Hurtado was born 1668 in Spain, died 1742 in Santa Fe. In 1692 he was an official at El Paso, then served as lieutenant governor at Santa Fe for several stints, including 1704-1705. He had earlier been accused of defrauding Spain under the guise of recruiting colonists for New Mexico. New Mexico Commission of Public Records Online. “New Mexico Governors” <http://www.nmpcr.state.nm.us/archives/governors.htm> (accessed 26 May, 2010), and, Samuel Sisneros. New Mexico Office of the State Historian. “Diaspora from Northern New Mexico” <http://www.newmexicohistory.org/filedetails.php?fileID=5333> (accessed 26 May, 2010).

⁵⁷ Also, Faraon. ‘Pharaohs’ in Spanish, deriving from an earlier textual reference to the “hordes of Pharaoh.” Likely the Querechos encountered by Coronado, which morphed into Vaqueros, then Llaneros. They were Plains Apache by different names. “Faraon”, Frederick Webb Hodge, ed. *Handbook of American Indians North of Mexico* Vol. 1, (New York: Pageant Books, 1959[1913]): 458.

⁵⁸ Hurtado, in Thomas (1935[1966]): 94.

⁵⁹ “Testimony of Don Lorenzo, Santa Fe, July 22, 1715.” In, Alfred Barnaby Thomas, ed., *After Coronado: Spanish Exploration Northeast of New Mexico, 1696-1727; Documents from the Archives of Spain, Mexico, and New Mexico*. 2nd ed., (Norman: University of Oklahoma Press, 1935[1966]): 82.

journal quoted herein were translated and edited by Alfred Barnaby Thomas (1935) from a manuscript collection at the Bancroft Library.⁶⁰

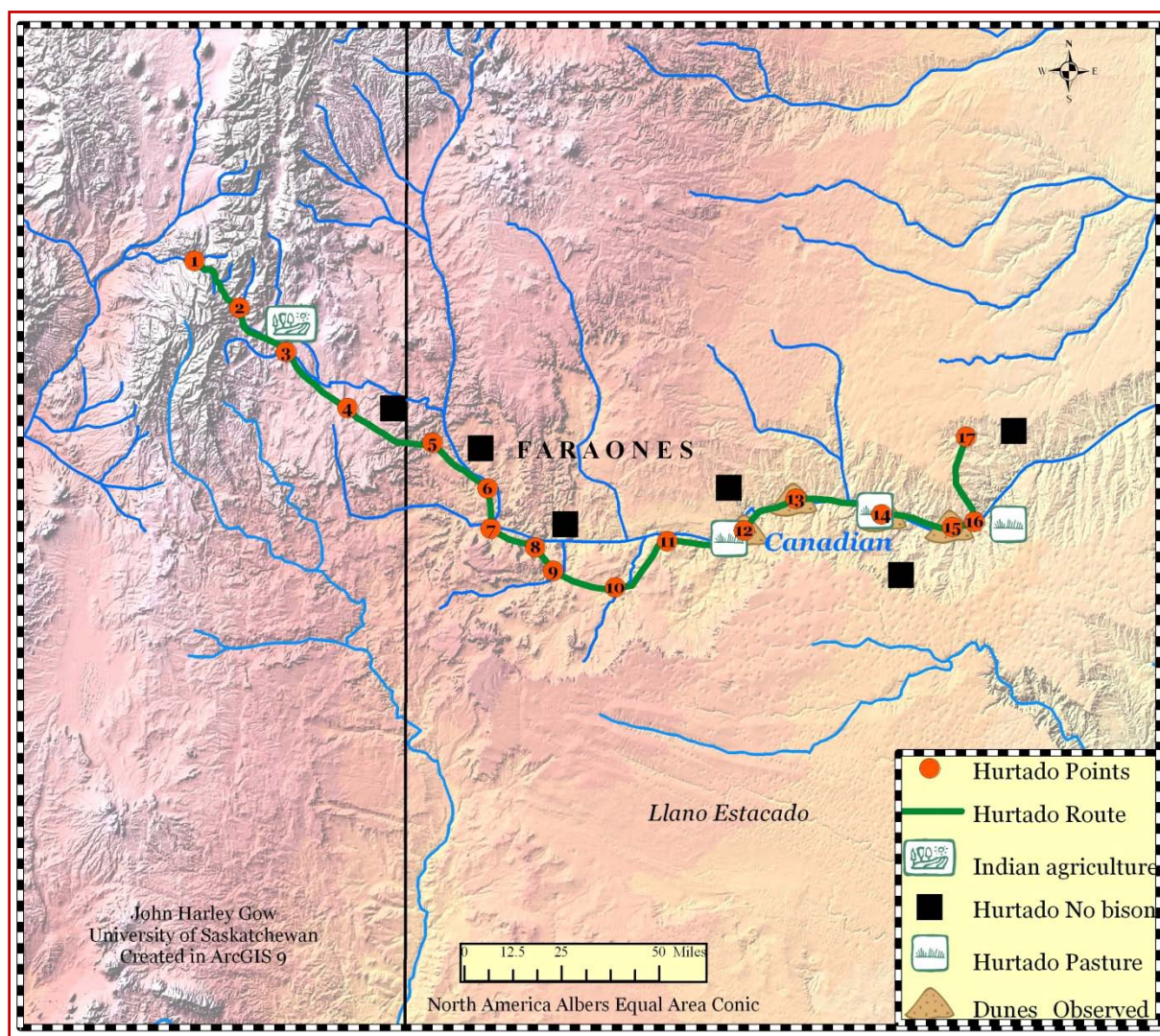


Figure 5.6. Hurtado Route & Data.

Friday August 30, 1715 Hurtado “set out from the pueblo of Picuríes” [**Point 1**] and marched “six leagues up the river [*Rio Pueblo*] to the east.”⁶¹ They camped in good pasture. On

⁶⁰ Juan Páez Hurtado, *Autos y Junta de Guerra sobre la campaña de los Apaches Chipaynes y faraones o lemitas y ordenes que se dieron para ella y diario y derrotero que el Gral. Juⁿ Pae Hurtado hizo, Año de 1715*. Original MS, Bancroft Library, University of California.

⁶¹ Juan Páez Hurtado, “Diary of the Campaign ... against the Faraon Apache, 1715,” In, Alfred Barnaby Thomas, ed. *After Coronado: Spanish Exploration Northeast of New Mexico, 1696-1727; Documents*

the 31st they marched a league and struck “very good water [running] to the southwest [in a] valley which is called Mora;”⁶² large oaks lined the valley. This is the first recorded naming of the Mora, blackberry in Spanish, River and Valley.⁶³ At this site they saw an “old house with adobe walls” likely of Apachean construction [2]. They marched four leagues and stopped in good pasture. On September 1st they moved only 1½ leagues, marching through oaks and pines and stopped on the Mora. Here there was an arroyo running to the southwest [3], the *Rito Cebolla*:

filled with much good water and quantities of trout. I called it the Valley of Corncobs because of the great quantities there are in it; it is a land famous for grain and herds.⁶⁴

Hurtado made no mention of aboriginal agriculture in relation to the corncobs, and gave no clue as to what the ‘herds’ were composed of. I assume that, given the nearest Spanish settlement was at Pecos, the grain was grown by aboriginal farmers. There is a very slim possibility that “herds” referred to horses, but much more likely that the animals were bison.

September 2nd they marched southwest, then southeast with the Mora to their left [4]. September 3rd they travelled southeast, then south, before turning east again. This seems to have been to avoid the cañons running to the Mora. On the 4th they travelled “eleven leagues to the east” through high mesas and “many poplars and white timber.” They camped “[a]t the outlet”, in some “Salt Marshes” where there was good grazing and useable water, one of the arroyos around *Sanchez, NM* [5]. The next day they struck a river running through some “mountainous mesas” where the “water is salty and the terrain red” that they typically named for the day’s saint, Raymundo [6]. Hurtado noted the “Indians call [it] the “Río Colorado”, now the *Canadian River*. Now travelling south, the river approach was covered with mesquite. They toiled through extreme heat, and “[i]t rained during the whole march.”⁶⁵ Despite the weather they made nine leagues this day [7], camping at the junction of the *Conchas River* and *Canadian*.⁶⁶ This part of

from the Archives of Spain, Mexico, and New Mexico, 2nd ed. (Norman: University of Oklahoma Press, 1935[1966]): 94-98. Hurtado called it “river of the Picuries[.]”

⁶² Hurtado, in Thomas (1935[1966]): 94.

⁶³ Blackberries are native to both the Southwest and the Southern Plains; Oklahoma has its own genus.

⁶⁴ Hurtado, in Thomas (1935[1966]): 94.

⁶⁵ Hurtado, in Thomas (1935[1966]): 95.

⁶⁶ Hurtado, in Thomas (1935[1966]): 95.

the journey now lies beneath *Conchas Lake*, which backs up from the east bend some fifteen miles.

On the 6th they followed the *Canadian* as it bent to the east, and made three leagues [8], we know from the journal they do not cross the river. They found “many deer and some prairie chickens,”⁶⁷ an important observation in that they were reporting useful/edible animals, and would have mentioned bison and horses had they been sighted. On the 7th they searched for water, meaning the *Canadian* was not potable. After five leagues they found an arroyo with “colored water in a salt marsh sufficient for the camp,”⁶⁸ the Río Colorado was to their left [9]. That the party chose to drink brackish marsh water over river water indicates the salinity of the latter. Midday they had to stop and wait out a heavy rain and lightning storm. They marched to the southeast searching for the Apache ranchería.⁶⁹ Striking another river “with sufficient water from the rain”, they camped after eleven leagues travel. Scouts said the Río Colorado was “three or four” leagues distant [10]. Here the land was “not sandy” this far off the river, and there were mesas with “many mesquite bushes.” This site would later host Comanche camps. During the day the heat had been intolerable, and they had marched late into the night, likely to make ground when it was cooler and there was water about.

September 8 they got lost and re-gained the Colorado to orient themselves, marching “six leagues to the north” [NNE]. The Colorado was very brackish, but they found sweet springs nearby. They also found “tracks of Apache men and women” along the river [11].⁷⁰ On the 9th they followed the Colorado east, crossing it many times over oxbows, and “at times ascending low hills to avoid a circuitous route.” Most of the route was through sand dunes. They marched six leagues and camped on a hill with many grape vines. There was a saline nearby “with very white and colored” salt, cottonwoods abounded and there was very good pasturage [12].⁷¹ On the 10th they followed the same track, and the “land is miserable; on both sides are sand dunes.”⁷² They followed the Apache tracks, now “somewhat fresher.” Again crossing the river

⁶⁷ Hurtado, in Thomas (1935[1966]): 95.

⁶⁸ Hurtado, in Thomas (1935[1966]): 96.

⁶⁹ They found no rancherías here, but that was likely just a matter of timing, text below. Later argonauts such as Vial will consistently find camps around *Tucumcari*, but these were all Comanche, the Apaches having driven out by mid 18th century.

⁷⁰ Hurtado, in Thomas (1935[1966]): 96.

⁷¹ They camped near what is now the border between New Mexico and Texas.

⁷² Hurtado, in Thomas (1935[1966]): 97.

many times they made six leagues and camped where a “glen running north terminated”, possibly *Romero Creek* [13].

On September 11 the river began disappearing into the ground, and reappearing at intervals. They encountered four leagues of meadows, although the “land is very rough and partly covered with sand dunes.”⁷³ Along the river banks were “wild grape vines, white trees,[and] some walnut trees.” This is in the vicinity of the *Old Tacosa/Boys Ranch* site [14]. On the 12th they marched through now familiar landscape; the river disappeared for long stretches. They camped near some marshes and there was a “sierra of sand’ between them and what they believed was the site of the Faraones ranchería to the north, [15] just below modern *Lake Meredith*. They never struck the great north bend of the *Canadian River* just to the east, and it would have been obscured by the highlands they would explore. On the 13th and 14th they searched this region for the Apache ranchería, finding a likely site, but not finding any Faraones to punish.

On “Friday, the thirteenth” they moved three leagues down the Colorado to an “arroyo of good water”, *John Ray Creek* [16], then moved to the north to avoid “some hills” above the river. They struck an “arroyo of good water and pastures” [17], but no ranchería and no evidence of “ranches and corn fields.”⁷⁴ Hurtado had his guide given “fifty lashes with a whip,”⁷⁵ in frustration at finding no Faraones to punish. After eighteen days of marching, Hurtado had reached the limits of his patience, and the eastern limits of his exploration. On the 14th scouts were sent out to the north. They found springs, and the site where “the Picuríes came when they left their pueblo.”⁷⁶ Here too they found “old tracks of many people and horse herds who had gone out for buffalo.” Hurtado assumed the Faraones had been warned of his approach, however that the tracks were old disputes this. The following day they began retracing their steps for home.

Hurtado yields some solid knowledge of this central region of the Study Area. This location was indeed a likely spot for a ranchería. Situated above the site of the future *Lake Meredith*, this spot was an important aboriginal site. The river valley here was joined by many

⁷³ Hurtado, in Thomas (1935[1966]): 97.

⁷⁴ Big Blue Creek, TX.

⁷⁵ Hurtado, in Thomas (1935[1966]): 98.

⁷⁶ Hurtado, in Thomas (1935[1966]): 98.

intermittent streams in a great catchment area, hence a natural site for a future dam and lake. The *Alibates Flint Quarries* were a few miles to the south across the Colorado/*Canadian*. His reference to the Picuríes is an interesting puzzle. Perhaps these Puebloans came here to hunt seasonally, although this is unlikely. More probably they had briefly settled here in the aftermath of the Pueblo Revolt. Hurtado's Picuríes guide had some familiarity with the place, but not enough to indicate recent experience. They found evidence of recent transient Apache occupation of sites along the Colorado, but no houses were found.

There was no sign of agricultural activity once they left the "Valley of the Corncobs." They did not encounter any trace of the once great Taino pueblos or presence. Unlike the Penxayes and Jicarilla Apache, the Faraon were hunters and gatherers and not agriculturalists. Also important is the total extirpation of Jumano presence from the *Canadian* River. This place, long at the heart of Jumano territory, was now an Apache place. Disease and warfare with the Spanish and Apaches had forced the Jumano off lands they had held since Cabeza de Vaca's transit. Neither was there any sign of the Plains – Pueblo trade that had been such an important element of the Study Area's geopolitics; the Taino agrícaro had disappeared as an economic element of the region.

Ulibarri encountered sign of bison, but never saw an animal on the journey. Not once did they mention hunting. One of the reasons Hurtado gave for terminating his outward progress was that his "supplies for the soldiers [was] beginning to grow scarce," indicating the lack of both fresh meat and 'found' agricultural goods. Neither did they see any feral horses. The lack of bison in September is surprising; the absence of horses, less so. The animals released in the Pueblo Revolt had not covered the Plains by 1715.

The Faraones were away on the bison hunting segment of their seasonal round in September and had been gone for some time. They had no harvesting to accomplish, but other factors also account for their absence. There were no bison on the *Canadian*; they had to be sought elsewhere. Hurtado and company suffered from the weather on their trip. Given the oppressive heat in conjunction with day-long deluges, one can only imagine the discomfort of one hundred percent humidity combined with forty degree Celsius. This accords with Julia Jordan's oral history work with the Plains Apache, who abandoned river valleys for the plains in high summer and early autumn because of the heat and humidity:

The Apache regarded themselves as a plains people, at home any place up and down the length and breadth of the high plains and the mixed grass plains but forever out of place and alien in adjacent mountains, deserts, and wooded country. Even the larger river valleys, such as the Washita and Canadian systems ... made them feel uncomfortable, with their hot, humid microclimates in summer, their stands of heavy timber, and their distinctive complex of sand-loving plants.⁷⁷

The *Canadian* valley was much less populated under the Apache than it would be under later Comanche occupation, or was when Jumano and Querecho groups contended. However, that he never found a ranchería “with thirty houses of wood entirely smeared with clay outside” does not mean it did not exist somewhere nearby. Hurtado makes clear the Spanish had no presence on the steppe in 1715. The Spanish were able to hold their position in the intermountain, but unable to expand eastward. If the Jicarilla were able to farm the Slope it was valuable land. Perhaps the overriding cause was increased raiding and warfare set in motion by the Comanche intrusion onto the Plains. Once again Spanish New Mexico fell back upon itself and the Study Area remained an aboriginal place.

Both Ulibarri and Hurtado had encountered sand dunes in their travels. In Ulibarri’s case he had seen sandy reefs on the borders of El Cuartelejo; these were mentioned as a curiosity in the midst of that agricultural region. Ulibarri also heard of, but did not witness the sand hills of the *Platte River*. Neither instance caused him to employ either despoblado or desert in his description. Ulibarri in fact saw the day when El Cuartelejo could be taken into the New Mexican realm as a productive place. Hurtado saw the *Canadian River* valley at its ‘worst’; the river sinking beneath its sandy bed. Considering Hurtado also never saw a bison or any of the Indians he was searching for he likely considered the place a despoblado, although he did not use the terms. Hurtado’s language was similar to that of all the Spaniards who dared to go beyond the pale of New Mexico; but for consolidating nearby lands the Spanish had small interest in settling either the Plains or the upper Rio Grande valley. There is no evidence that either of these argonauts contribute to the geographical knowledge or the advancement of the idée of a great desert on the Plains. Given the cyclical nature of the Spanish approach to the Plains, it would be seventy years before other Spaniards returned.

However, in 1724 Étienne de Veniard sieur de Bourgmont, led a French expedition from the Missouri/Kansas River into the heart of the Great Plains. There the French Canadians out of

⁷⁷ Julia A. Jordan, *Plains Apache Ethnobotany*, (Norman: University of Oklahoma Press, 2008):43.

Montreal reached a rapprochement with the Padouca, pointing a dagger at the heart of New Mexico. In 1759, Carlos III assumed the throne of Spain and its possessions. Carlos III personified Spain's attempts under the Borbóns to "expand the frontiers of new knowledge [and] controlling and settling new territory."⁷⁸ A man of his times, the Enlightenment, Carlos sponsored enterprises intellectual, scientific, and colonial; he would sponsor several enterprises affecting the Study Area during his three-decade reign [1759-1788]. In keeping with the Spanish model of governance, however, little of this knowledge would leak out of the bureaucracy into the world of maps and publications.

Anza, 1779.

Juan Bautista de Anza was the architect and field commander of the most successful euramerican military campaign conducted within the Study Area before 1860. Anza's expedition from Santa Fe onto the steppes around the *Arkansas River* in 1779 was not meant to conquer territory, but to punish the Comanche for abusing Spanish property and persons. Anza's journal was the last surveyed in this chapter, and marks the end of an era in the Spanish enterprise *vis a vis* the Southern Plains. Anza was the last Spaniard surveyed whose intention was to keep the aboriginal Plains at bay rather than integrating the realm into the Spanish orbit. The next prominent "Spaniard" to survey the Southern Plains, Pedro Vial, would do so as an official explorer-mapper whose purpose was to integrate the region into the web of Spanish mercantilism. Neither approach ultimately proved successful.

Juan Bautista de Anza was the first Hispanic, as opposed to Spaniard, to describe Study Area in terms of text and mapping. Anza was born in 1735 in the Presidio of Frontiers, Sonora, of a Basque father and Spanish mother. His father, Juan Bautista the senior (1693-1740), was killed fighting Apaches.⁷⁹ Juan Bautista *filis* (1735-1788) was soon fighting Indians as a career, and was a lieutenant by nineteen. In 1759 he became the captain of the Presidio of Tubac when the incumbent was killed fighting "Seri Indians."⁸⁰ Anza married in 1761 and remained at Tubac until 1772, taking part in many sorties against aboriginal groups, apparently successfully. During these fights, Anza was wounded several times. In January 1774 he led an expedition

⁷⁸ Engstrand (1997): 95.

⁷⁹ Kessler, Ron, *Anza's Comanche Campaign*. 2nd ed., (Monte Vista, CO: Adobe Village Press, 2001): 54.

⁸⁰ Kessler (2001): 56.

north, marking a route through mountains and the *Mojave Desert* to Monterey Bay, *California*.⁸¹ This success earned him senior rank, and the leadership of a major expedition; it was Anza who established the Presidio of San Francisco in March 1776. Strangely, Anza was not ‘allowed’ to enjoy the fruits of this colony, but returned to Mexico City.

In May 1777 at age forty-one King Carlos III appointed him *gobernador* of New Mexico. His first planned objectives were to plot, secure, and develop a functional road from Chihuahua to Santa Fe. Typically, the realities of aboriginal actions caused him to abort this project as he was forced to hurry to Santa Fe, where the “Comanches were devastating the Pueblos”⁸² under the leadership of Cuerno Verde. Sixty-one New Mexicans had been killed by “Apaches and Comanches” in one three-month period in 1777.⁸³ The true force and nature of aboriginal raiding on Spanish-Americans is best understood in the figures from New Vizcaya⁸⁴ where, from 1771-1778, 1,963 persons were killed (or taken), and some 70,000 “head of stock stolen.”⁸⁵ Anza was nothing if not a man of action, and launched a punitive expedition against Cuerno Verde within some months of settling at Santa Fe. The speed with which Anza undertook his mission was a major reason for its singular success. Another factor was his decision to head north up the Rio Grande and then circle back down the steppe to surprise the Comanche.⁸⁶ Anza would find and destroy a surprised Cuerno Verde in September, 1779. This action occurred around the *Arkansas River* as it leaves the mountains and enters the Study Area, territory later covered by both the Pike and Long Expeditions. Anza kept a brief but very good journal, one that is eminently mappable.

⁸¹ For Anza’s actions in California, see Herbert Eugene Bolton, *Anza’s California Expeditions* 5 volumes, (New York: Russell & Russell, 1966[1930]).

⁸² Kessler (2001): 61.

⁸³ Noel M. Loomis and Abraham P. Nasatir, eds., *Pedro Vial and the Roads to Santa Fe*, (Norman: University of Oklahoma, 1967): 9.

⁸⁴ New Vizcaya was the Spanish province now styled the Mexican states of Chihuahua and Durango.

⁸⁵ Loomis (1967): 9.

⁸⁶ Thus revealing his “remarkable foresight and his genius as an Indian fighter.” Thomas (1932): 66. Anza has attracted his hero-worshippers including Thomas and Kessler. He was however a singularly effective administrator and warrior. This was partly due to his long, by the region’s standards, tenure in office. Anza also treated the Comanche and other groups as relative and intelligent equals after he militarily forced them to the negotiating table. I attribute this in part to his being Hispanic, born of the place, rather than being a Spaniard intent on securing a fortune.

The academic standard translation of Anza is Alfred Barnaby Thomas, *Forgotten Frontiers*.⁸⁷ Thomas collected, edited, and translated all the Anza documents, letters, journals, et cetera, from the “Archives of Spain, Mexico, and New Mexico” in this work.⁸⁸ For the purposes of this paper, Ron Kessler’s *Anza’s 1779 Comanche Campaign* provided providential. Kessler in his second edition provided both a translation of the 1779 journal as well as a transcript of the original in Spanish.⁸⁹ Kessler also explored the route on the ground and, in conjunction with Yvonne M. Hallurian, produced excellent hand-drawn maps of the region and the route.

⁸⁷ Alfred Barnaby Thomas, *Forgotten Frontiers: A Study of the Spanish Indian Policy of Don Juan Bautista De Anza, Governor of New Mexico 1777-1787*, (Norman: University of Oklahoma Press, 1932).

⁸⁸ Thomas (1932): iii.

⁸⁹ Juan Bautista de Anza, *1779 Comanche Campaign Journal* (Archivo General de la Nación, Mexico City, Mexico). Provincias Internas. V.25. Copy in University of New Mexico Library, Albuquerque NM.

Figure 5.7. Anza Route & Data, 1779.

Anza set out from Santa Fe [**Point 1**] on August 15th, 1779 with some 350 militia and soldiers. Anza equipped each with “a good horse from the two hundred that I have extra in the herd at the presidio and all of them with firearms with ten ball cartridge belts.”⁹⁰ That Anza had 200 extra horses in his remuda gives some idea of the numbers of Spanish animals in New Mexico, and the reasons for the perpetual aboriginal raiding upon them. This expedition had more than two horses for each of its eventual 600 members.

As Kessler noted, by this time the Spanish were well acquainted with the Rio del Norte [*Rio Grande*], and when Anza set out to the north, he passed well-known, named and mappable, sites, “Pujuaque” [*Pojoaque*] being the first. To avoid Comanche scouts Anza avoided the then typical Spanish response to Comanche raids of back-tracking the raiding party. He instead on the 17th crossed the *Rio Grande* to the east and then headed north, intent on coming at the Comanche from an unexpected direction. This strategy would prove brilliantly successful.⁹¹ Nineteen leagues (<60 miles) from Santa Fe they struck “the deserted pueblo of Ojo Caliente” reduced by Comanche raiding [2]. This also marked the terminus of the Camino Real, or King’s highway. Anza observed that the Spanish had to learn to fortify and organize to withstand the Comanche raids.⁹² Climbing through rough country, they encountered on 20 August “frost and cold” as if it were winter. On this day, “200 Hombres Jutas, y Apaches” joined the party, led by their *Capitanes*.⁹³ They continued to the north crossing rivers that today retain the names used by Anza; the San Antonio, Rio Nutrias, Conejos. They crossed the Rio del Pino just after meeting the “Hombres” [3], perhaps naming that stream. They now travelled at night to avoid detection; they would have been easily seen from the valley stretching east to Taos.

Now marching through “razonable terreno”, they travelled 16 leagues and struck the *Rio Grande* at “the ford named El Paso de San Bartolomé.”⁹⁴ I make this to be near *Alamosa CO*, given the concordance with travel distance and direction [4]. Anza here displayed the then current Spanish geographic knowledge:

⁹⁰ Anza, in Thomas (1932): 123.

⁹¹ Thomas (1932): x. Anza’s achievement “ranks him...among the leading governors and frontiersmen of provincial North America.” I agree completely with this assessment. Kessler wrote that Anza had “the most brilliant military career in all of the history of North America.” Kessler (2001): 63. This seems a bit over the top, particularly since Kessler does not mention any of the competition.

⁹² Anza, in Thomas (1932): 124.

⁹³ Anza, in Kessler (2001): 21.

⁹⁴ Anza, in Thomas (1932): 126.

This river [*Rio Grande*] empties into ... the Bay of Espíritu Santo [*Gulf of Mexico*]. It has its own source fifteen leagues more or less from this place in the Sierra de la Grulla⁹⁵ [*San Juan Mountains*], we have skirted since the 17th, being to the west of the Capital in my charge [Santa Fe].⁹⁶

The Utes with Anza correctly told him that there arose just to the west of the *Rio Grande* headwaters several rivers that flowed to the west. Anza was familiar with these from his previous travels, and knew them to join the “rio colorado.” The Utes also said that their summer camp was located near that source [90].

On the 24th they made 8 leagues NNW across good land, and stopped at “a pleasant pond” [5] Anza named San Luis. I make this out to be the *Russell Lakes*. This valley is now the *San Luis Valley*, as apparently Anza’s naming shifted from lake to valley over time. Anza here complained about suffering cruelly from the cold, and wanted to light fires, but was afraid to as they saw campfires to the east. They would later realize that these fires marked a Ute “camp of long standing”, which had been raided by Comanche July 18, 1779 [91].⁹⁷ This winter weather would dog their progress until they left the mountains for the plains. Travelling by night and through bad weather they did not observe to their left across the valley the towering white sand dunes that constitute *Great Sand Dunes National Monument*, thereby missing the one real pocket desert on their route.

They marched again to the northeast at night from this place on the 26th. Anza noted that the two ranges, Sierra de la Grulla (*San Juan*) and unnamed (*Sangre de Cristo*) had been drawing together, and they were now at the point where they met and “conjoined ran thus to the northwest, their end being unknown.”⁹⁸ They stopped at “el aguage de los Jutas,” which I make out to be *Mineral Hot Springs, CO* [6]. On the 27th they made their way through narrow pass with considerable water, “the first that runs generally to the northeast and which is the only one that divides the two sierras,” [7] identifying *Poncha Creek* and *Poncha Pass*. They followed this to a “good sized river”, the *South Arkansas*, and camped at the junction [8].

August 28th Anza crossed the “el rio Napestle,” *Arkansas River*, and made 6 leagues NE over “otre mediana sierra”, smaller mountains, to wind up in what they called the “Lost Hills.”

⁹⁵ Mountains of the Cranes.

⁹⁶ Anza, in Kessler (2001): 22.

⁹⁷ Anza, in Kessler (2001): 11.

⁹⁸ Anza, in Thomas (1932): 128.

This site took its name from the extreme weather, snow and fog, they encountered there [9]. On Sunday 29 August they started out in the same bad weather to the northeast, but had a great change of luck after four leagues when a “great number” of bison “broke in on [their] march.”⁹⁹ With little effort they killed fifty animals in less than ten minutes. They were travelling through “good country, with many small streams” [10]. Presumably these bison made their way into the intermountain by following the *South Platte River* which, unknown to Anza, ran a scant fifteen miles to the north. Well fortified after the meat and rest, Anza’s army tackled the “Sierra Almagre” [Ochre Mountains] on the 30th. Crossing rough ground with ravines and thick woods, they were skirting north [11] of what would be known as *Pikes Peak*; they may have named it Blind Eyes, “los ojos ciegos”¹⁰⁰ [93].

Also on the 30th they struck and camped on the “head” of a river they named Santa Rosa, or *Fountain Creek*. Anza had not earlier speculated on whether he had found a new river drainage running northeast (the Platte); I attribute this to his striking the Santa Rosa winding around *Pikes Peak*.¹⁰¹ This stream figures as heavily in Anza’s account, as it did in the Comanche environment.¹⁰² This day they waited news from scouts regarding the whereabouts of Comanche. On the 31st in the afternoon they saw dust clouds to the east, and scouts reported “a considerable number of the enemy” camped there. I make this out to be below present *Manitou Springs, CO* [12], from which prominence one can see tens of miles onto the plains below. The location of the Comanche camp, it was a travelling camp and not a presidio, was at the junction *Monument Creek* and *Fountain Creek*.¹⁰³ As Anza’s scouts were spotted by Comanche scouts, the Spaniards launched an attack, commencing a running battle that lasted three days.

Anza estimated the Comanche camp at “more than one hundred and twenty tents” and stated it was “well known that in each tent six to eight fighting men live”;¹⁰⁴ meaning he faced

⁹⁹ Anza, in Thomas (1932): 128.

¹⁰⁰ Anza, in Kessler (2001): 22. Pikes Peak stands some 14,000 feet and is surrounded by peaks rising to 10,000 feet. However, it is only exceptional when viewed from the Plains as it uniquely projects out from its range. Likely the “Blind Eyes” signifier came from their inability to see around the mountain as they approached a known Comanche gathering place.

¹⁰¹ Zebulon Pike and others would later search for and find the head of the Platte here. Anza was of course intent on a military objective and was not exploring.

¹⁰² Both Zebulon Pike and Stephen Long later traced this stream.

¹⁰³ There is an environmental and tactical logic to the location of aboriginal camps and towns that is best appreciated through on the ground experience.

¹⁰⁴ Anza, in Thomas (1932): 130, 131.

seven to nine hundred fighters. The battle narrative does not bear this out, however, as the Comanche never brought those numbers to the field; this was likely due to the great camp devolving into many groups when Anza attacked. In a later document, Anza took a census of Comanche at Santa Fe and counted three citizen fighters and 7-8 dependents per tent, but that was in a peaceable situation.¹⁰⁵ This census figure of ten persons per tent will be used in computing Comanche ranchería populations in this work. It seems reasonable that both Anza estimates are correct, and that a war party would indeed have two or three times as many citizen fighters per tent. Immediately the Comanche gathered and took to their horses, “even to the women and children”, and fled.¹⁰⁶ Despite resistance, Anza captured thirty-four women and children. Anza noted that it was difficult to discern men from women in the excitement, “since the men dress the same as the women”, and all were on horseback.¹⁰⁷ There was no massacre of non-combatants, which helps explain Anza’s future diplomatic successes with the Comanche and other aboriginal groups. Also, “more than five hundred” horses, or “todo la caballada,” were caught.¹⁰⁸ Since all the estimated 700 plus fighters and many dependents got away on their horses, a conservative estimate for this party’s caught horses is some three thousand.¹⁰⁹ In fleeing, the Comanche lost “all their goods and baggage” [13]. Anza “asked questions” of the captives and, after several hours, was told that “Capitan Generalissimo Cuerno Verde” had organized this camp, but that he had earlier left with “a great number of rancherías”¹¹⁰ on the road south. It is interesting to speculate what the results of Anza’s attack might have been if he had found this camp a few days earlier and faced thousands rather than hundreds of Comanche.

On September 1, 1779, Anza took his army “east southeast” some twenty miles and camped “at the end” of *Fountain Creek*; in other words at its junction with the Rio Napestle, or *Arkansas River* [14]. On the 2nd they travelled “three leagues [and] recrossed the rio de

¹⁰⁵ Anza, in Thomas (1932): 325. *List of the Comanches who came to make peace in New Mexico, 1786*. “[T]he number of tents...in which there may be computed about three men of arms and from seven to eight women and children.”

¹⁰⁶ Anza, in Thomas (1932): 130.

¹⁰⁷ Anza, in Kessler (2001): 14. A unique observation, I believe.

¹⁰⁸ Anza, in Kessler (2001): 25.

¹⁰⁹ Citizen fighters always took two war ponies to battle.

¹¹⁰ The custom of this paper is to refer to semi-permanent sites as rancherías. Anza’s usage here refers to the population of one of these sites being temporarily mobile. The Comanche demonstrated over time their political ability to summon many sub-groups into one body under centralized command for specific purposes (warfare or negotiation). See in particular Pekka Hämäläinen, *Comanche Empire*.

Napestle”, so they had camped on the heights above that junction. Here they captured more Comanche horses, and here “most of the Ute nation left for their country.” September 2nd saw the beginning of the major battle of this campaign, which ranged over miles of valleys, plains and gullies [15]. Several Comanche were killed in skirmishes, and both sides experienced a night of “rain and severe cold.”¹¹¹

Friday the 3rd they fought and ranged southwards through woods and valleys. Cuerno Verde apparently tired of running and faced the Spanish; his forty guns no match for the hundreds he faced [16]. The “larger body” of Comanche was able to escape due to this action. As Anza wrote;

A larger number might have been killed, but I preferred the death of this chief even to more of those who escaped, because of his being constantly in this region the cruel scourge of this kingdom, and because he had exterminated many pueblos, killing hundreds and making as many prisoners whom he afterwards sacrificed in cold blood.¹¹²

Not all the pueblo dwellers were made prisoner; a catholic assortment of Spaniards, Indigenes and Hispanics, were *not* “sacrificed in cold blood” but rather sold as slaves or integrated into Comanche society. Some of the “Comanches” Anza fought and chased had formerly been people of the pueblos. It may have been psychologically easier to think of all those taken by the Comanche to have been barbarically sacrificed, rather than being sold as slaves or ‘willingly’ adopting into aboriginal society. It also would have been a pragmatic approach given the rarity of successful Spanish forays onto the Plains.

That Cuerno Verde was killed along with “his first-born son...four of his most famous captains [and] a medicine man who preached that he was immortal,” and other citizen-fighters was a benchmark event in the history of the Spanish enterprise. This action decapitated the Comanche of the north and would result in a rapprochement between the Santa Fe Spanish and the Comanche. After much cheering, Anza and his soldiers set out to the south and struck “the first stream and arroyo of La Sangre de Cristo” where they camped [17]. The Sangre de Cristo signifier was established both for the stream and the mountains by this date. While Anza had no previous experience of this geography, his strategy indicates he knew where the Comanche raiding road passed through the mountains that ran north of Santa Fe.

¹¹¹ Anza, in Thomas (1932): 134.

¹¹² Anza, in Thomas (1932): 135.

September 4th they “recrossed the sierra [that was] on our right in going” north, the prominent peaks around *Blanca Peak* [93]. Anza made 8 leagues south and arrived at “the place of the Ciénega,” or the marsh. I make this out to be the wetlands, now reservoir, below *San Luis, CO* [18]. On the 5th they continued south 10 leagues through good country. At midday the remaining Utes “left for their country...without farewells, for their barbarity and desire again to see their country did not admit this civility.”¹¹³ They discovered seven dead Comanche horses and a grave containing seven Comanche bodies; this would be explained on their reaching Taos. This discovery situates the Comanche raiding trail from the steppes into the San Luis Valley [19]. On the 7th they forded the Rio Colorado¹¹⁴ [20], and after another 5 leagues arrived at the “pueblo of Taos, which is the most northern one of all this kingdom.” Here they learned that the Comanche had attacked here August 30th. Forewarned by “our Apache friends,” the Taoseños had repelled the attack accounting for the Comanche grave of the 5th.¹¹⁵ The Comanches had encountered a newly built presidio at Taos, “a square with triangular fortifications on the corners,” and been soundly defeated by the Spanish.¹¹⁶ This construction and organization was due to Anza’s efforts. This action also speaks to Anza’s strategy, for if he had followed the ‘traditional’ retaliatory action he would have been detected by this raiding party and likely never have cornered Cuerno Verde.

Anza’s great success against Cuerno Verde was outstanding because it was unique. It might be possible to entertain a different opinion of Cuerno Verde’s actions than that of Anza’s:

the bragging, boasting, presumptuous disposition of that barbarian, which he manifested to the last in various ways, disdaining even to load his own rifle, which three times was done for him by someone else, while he in the meantime used his lance.¹¹⁷

It is easy to see the actions of “Capitan Generalísimo Cuerno Verde”, indeed the whole military action, as a victory rather than a defeat for the Comanche. Anza struck the main camp when most of the rancherías were already departed and strung out on the steppes to the south of *Pikes Peak*. Cuerno Verde’s personal defeat was enough of a victory for Anza, who literally bolted through the pass into the mountains as soon as it was accomplished. The Spanish went home

¹¹³ Anza, in Thomas (1932): 137.

¹¹⁴ Now, Red River of New Mexico.

¹¹⁵ Anza, in Thomas (1932): 137. Anza is clear in calling the Apache “our allies.”

¹¹⁶ Anza, in Thomas (1932): 137.

¹¹⁷ Anza, in Kessler (2001): 16.

with some sixty Comanche women and children and a few hundred horses, having slain some forty citizen-fighters. Considering the vulnerable situation of the Comanche, it is easy to see Cuerno Verde's actions as a brilliant and heroic stand to save the majority of his people from Anza's army. Had Anza faced the massed Comanche rancherías rather than just the rear-guard, he may well have been as posthumously famous as Custer.

The Anza expedition of 1779 indirectly yields a number of illuminating impressions. First, despite some hundred years of Spanish occupation, Anza reveals that in 1779 functional New Mexico terminated some fifty miles north of the presidio of Santa Fe. The Camino Real terminated at Ojo Caliente, which had just been reduced by a Comanche assault. Across the San Luis Valley at Taos a newly build presidio withstood, apparently for the first time, a Comanche attack in the same year. North of this arc of influence there was no Spanish or Hispanic presence in 1779. While the Ute were able to hold ground on the west side of the San Luis Valley, their summer camp at the northwest terminus of the valley was under attack. The Apache were theoretically present on this expedition, although they are not mentioned anywhere but for the meeting of 20 August. I take this to mean that there were Apaches within the Ute complement, but that they were not a distinct unit. Also, there is no evidence of Apache presence or occupation of land in the San Luis valley in 1779. The Comanche total war against the Apache seems to have been nearly complete. This is in stark contrast to the powerful Padouca/Plains Apache presence at El Cuartelejo that had existed fifty years before.

The Comanche, in this text otherwise undifferentiated but elsewhere identified geographically by Anza as the "Yupes, Yupinis, or Gente de Palo [Stick People: Jupe], and...Yamparica"¹¹⁸, were thoroughly people of the Plains by 1779. But for the organized presidios of Santa Fe and Taos they raided at will in numbers ranging from dozens to hundreds of citizen-fighters in the San Luis Valley. Key to understanding the Comanche is that they nevertheless did not occupy, nor attempt to occupy, that valley. The Comanche treated the heart of the Spanish Southwest as a renewable source of horses and slaves, as well as a granary. Anza identified them as stealing stock and "exterminating" pueblo dwellers with near impunity. The Spanish response had before Anza been an "annual" sally from Santa Fe back along the Comanche road which was as predictable as it was ineffective. Cuerno Verde was able to

¹¹⁸ Pedro Garrido y Duran, "An account of the events concerning the Comanche Peace 1785-1786," 294-321. Thomas (1932): 294.

summon dozens of rancherías to raid Taos or Santa Fe to punish the Spanish. That one branch of the Comanche was able to summon hundreds of citizen-fighters for common purpose was testimony of their strong, if ephemeral, political organization and cohesiveness. That they did so while living in the heart of what would become known as the Great American Desert speaks to the vapidness of that notion. By the speed of their conquest the Comanches, as Dan Flores has written, had found on the Southern Plains not a desert but “an earthly paradise.”¹¹⁹

Climatologically, the Southwest was a different place then than it is today. Anza faced winter weather including, fog, snow and sleet storms along the San Luis Valley in August and the first week of September. They were not in the mountains, but on the slopes of the *Rio Grande* valley. This weather persisted to the north of *Pikes Peak*, and was encountered again in early September when they re-entered the *San Luis Valley*. This accords with earlier Spanish argonaut reports that the Desert Southwest was a much colder and wetter place as late as 1779.

In August and September of 1779 there were no bison or mustangs reported in the San Luis Valley. The party did encounter hundreds of bison to the just west of *Pikes Peak*. This area belongs to the *South Platte River* drainage, and these animals would likely have made their way back and forth between these valleys and the plains below. It is also possible that these animals made their way up the *Arkansas River* to *Cottonwood Creek*, thence into what is now *South Park*. Zebulon Pike would later see animals, not herds, in this vicinity. There were no reports of bison anywhere on the Plains, but of course there was a major fight taking place, and neither hunting nor recording wildlife sightings was Anza’s priority.

Anza never mentioned mustangs or feral horses. The Spanish had available several hundreds of horses. These belonged to Anza personally, others to the militia and soldiers. Apart from Ojo Caliente there were no easily raided outlier ranches or communities. For the Comanche to raid horses, they were forced to approach the growing presidios. While the Comanche encountered had some thousand horses, estimated, there is no evidence of large numbers of feral horses on or near the Study Area in 1779. I surmise that given this relative paucity of ‘easily’ obtained horses, the Comanche began relying increasingly on their Cuchanec cousins to the south, and their easier access to feral and Spanish horses in Tejas. This would also help account for increased raiding of Spanish Tejas settlements there and further into Mexico.

¹¹⁹ Dan Flores, "Bison Ecology and Bison Diplomacy: The Southern Plains from 1800 to 1850," 465-85, *Journal of American History* (78: 2, 1991): 469.

Nowhere on this journey did Anza complain of having poor or no grazing, and only once did he comment favorably on grazing, in conjunction with the bison sighting. Often he referred to easy or good travelling, which equates to abundance of grazing, water, and firewood. Anza's route demonstrates that the *San Luis Valley*, then effectively New Mexico, was easily reached from the Study Area, and the two regions were intricately bound together environmentally and economically through aboriginal raiding and to a lesser extent, trading relations. Anza demonstrates that the New Mexico Spanish had control over the presidios of Santa Fe and Taos, and could exert punitive pressure on the Study Area's aboriginal inhabitants, but had little to no control over them. Within hours of defeating Cuerno Verde, Anza ducked through the closest pass into the safety of the *San Luis Valley*, leaving the exploration of the Plains to later Spaniards.

Anza contributed some geographic knowledge including the pass from the *San Luis Valley* to the Napestle River. He added the territory around *Pikes Peak*, the source and flow of *Fountain Creek*, and the Sangre de Cristo pass from the steppes to the *San Luis Valley* to the lexicon of the Study Area. Anza contributed significant historical geopolitical knowledge of the region, including the positions of Ute camps, the northern limits of Apache presence, and the site of the Comanche rendezvous ranchería. The Utes provided a significant buffer between the Spanish and the Comanche at this time and place, having replaced the Apache presence. There was a virtual Comanche hegemony over the territory east of the Sangre de Cristo Mountains on the Napestle in 1779. The reason the Comanche were not in de facto possession of the upper *Rio Grande* valley was not Ute or Spanish presence, but rather a lack of natural resources, primarily grazing and bison, so plentiful on the Great America Desert scant miles to the east. Anza's great victory would help bring the Comanche to the treaty table in 1785, but it was a defensive gambit and did not result in any increase in New Mexico territory. In classic Spanish-American fashion, Anza's victory was a hollow one in terms of expanding Spanish influence onto the Great Plains, and it could be argued that it was the Comanche who forced the Spanish to embrace negotiation over conquest as a means of dealing with the Great Plains.

Carlos III, the great patron of Spanish exploration and scientism, died in 1788 and was replaced on the throne by another Borbón, Carlos IV [1788-1808]. Carlos IV had to deal with the American incursions into the Study Area. Under Carlos, "Spain's royal government began

its decline,”¹²⁰ and the Spanish argonaut era closed. Neither did there seem to be any effort to consolidate, publish, or even benefit from the results of all those argonauts who had gathered the knowledge. It would be the Frenchman Pedro Vial, who would prove the greatest Spanish explorer of the Southern Plains, despite the disinterest of Carlos IV. As the Spanish goal slipped from colonialism to commercialism, this reluctant argonaut became the first euramerican to see, map, and conceive of the Southern Plains geography as a whole.

¹²⁰ Engstrand (1997): 96.

CHAPTER 6

France Approaches The Plains; 1724-1790.

There were French efforts directed towards the Study Area although generally speaking these followed the French trader model and would produce little in the way of in situ journalism. One exception was Jacques Marquette who, in company with Louis Jolliet in 1673, descended the Missouri River to Mississippi, thence to the mouth of the Arkansas River, where signs of Spanish trade caused him to return north. This was a canoe-borne party that rarely strayed from the river banks. Marquette was a better ethnographical than environmental source, but from the mouth of the Pekitanoui [Missouri] at the Mississippi, he shed some light on this region.¹ Marquette called the Indians here Illinois, although in truth he did not distinguish between what we think of as tribes. They were likely the Osage.² These Indians offered meat from “wild cattle” and they possessed guns, for which they traded with “people to the east” who had “rosaries and pictures”, meaning French traders.³ They lived in houses and hunted and ate bears. At this point, they began to notice cane growing along the banks of the Mississippi, and mosquitoes became a problem. Above this there were fine prairies, below, forests of “lofty trees.”

They then descended to the “Akamsea”, presumably *Arkansas*, where they encountered a different agricultural group, who had “great earthen jars” in which they cooked corn. Corn was stored in large baskets made from cane. These people, likely Quapaw, had an abundance of corn, which they “sow[ed]...three times a year.”⁴ This is consistent with argonaut reports of multiple corn plantings and crops from spring to autumn. That they were linked linguistically to the peoples above (Illinois) suggests they were all Siouan speakers. The people below the Quapaw were blocked from the bison plains to the west and therefore had to eat “poor food.”

¹ Jacques Marquette, “Voyages du P. Jacques Marquette, 1673-75,” 87-163. Reuben Gold Thwaites, ed. *The Jesuit Relations and Allied Documents*, Vol. LIX (Cleveland: Burrows Brothers, 1907): 137.

² Willard Rollings has this encounter taking place at the Osage River, after Marquette’s “primitive map”, unseen by this writer. Rollings, Willard H., *The Osage: An Ethnohistorical Study of Hegemony on the Prairie-Plains*, (Columbia: University of Missouri Press, 1995[1992]): 98.

³ Marquette, 147.

⁴ Marquette, 155.

Likewise they were blocked from the lower Mississippi by Indian groups with guns. This squares with later reports of the Quapaw and Osage hegemony on the lower Arkansas. Marquette and Jolliet pressed on from this site giving their southernmost point as “near the 33rd degree of latitude,” perhaps 150 miles below the mouth of the Arkansas. They spotted, and of course killed, “a little parroquet, one half of whose head was red, The other half and The Neck yellow, and The whole body green.”⁵ They were turned back, as the Quapaw had warned by a different and belligerent group.⁶

Marquette reported no horses along the Mississippi or lower Missouri at this time; the animal was not mentioned in relation to the Osage or Quapaw. The Frenchmen reported hearing “wild cattle” bellowing along the Mississippi at the place where prairie, turned to cane, and cane turned to forest, likely about 38° to 39°. They made no reports of seeing the animal although the Osage and Quapaw both served bison meat. If Marquette otherwise contributed to understanding of the TransMississippi West, I have not seen any evidence.

The great exception to the French record was Étienne de Veniard, sieur de Bourgmont (1675-1734), after Bourgmont⁷, the first euramerican to explore and journal the Missouri River. In a region that attracted, or possibly made, exceptional individuals, Bourgmont was certainly one. In 1698 he arrived in Canada as a common soldier having been deported for poaching.⁸ He apparently first became acquainted with the approaches to this Study Area in 1702 as member of Charles Juchereau, sieur de St. Denis’s expedition to the Ohio River.⁹ Juchereau set up the first bison hide tannery at the junction of the Ohio and Mississippi Rivers, curing some 13,000 hides

⁵ Marquette, 148. Carolina parakeet which flew in massive flocks on the lower Mississippi. The last captive bird died in 1915. Freeman & Custis would report this bird in large numbers on the lower Red River in 1806. Doreen Buscemi, “The Last American Parakeet,” *Natural History* 87:1 (1978): 10-12.

⁶ Kathleen DuVal, *The Native Ground: Indians and Colonists in the Heart of the Continent*, (Philadelphia: University of Pennsylvania Press, 2006): 3

⁷ Many spellings exist, and the surname has been variously bastardized, often to “Bourgmond”, unfortunately including in *Dictionary of Canadian Biography Online*. Bourgmont is the owner’s spelling.

⁸ Frank Norall, *Bourgmont, Explorer of the Missouri, 1698-1725*, (Edmonton: University of Alberta Press, 1988). Readers interested in Bourgmont are sure to enjoy this brief, highly readable monograph that focuses on the subject’s Missouri career. Norall wrote from archival sources, correcting many errors about Bourgmont. Norall herein presents his own translations of the complete journals.

⁹ Norall(1988): 4. Thanks to Robert Englebert for pointing out that 1701 was the year of the ‘Peace of Montreal’, a remarkable achievement in which New France and some forty aboriginal nations struck a peace between French settlers and the Iroquois that lasted a decade and a half.

in its first and only season; the enterprise was destroyed by “the local Cherokee”¹⁰ [Point 93, Fig.6.10] Bourgmont lived as a hunter/trapper during this time, likely encountering the Missouris. Four years later in 1706 the now Ensign Bourgmont was in the service of Sieur de Cadillac at Detroit. He further revealed a penchant for outlawries by deserting his command at Detroit, returning to living among Indians south of Lake Erie as trapper.

Bourgmont’s activities, while unlawful, proved useful to French aspirations. From 1713 to 1718 it is believed he acted as “explorer, intelligence agent—and increasingly—a sort of ambassador to the Indian tribe in the Illinois and Missouri countries.”¹¹ Henri Folmer believed that “from the 1710s to 1725 [Bourgmont] played the most important role in the French penetration” of the TransMississippi West.¹² In 1713, while he was supposed to have been arrested “as soon as he appear[ed]”,¹³ Bourgmont conspicuously paddled down the Mississippi to Mobile, then the French capital of Louisiana, and was not charged with arrest, but rather made leader of an expensive exploratory expedition mapping the Mississippi and Missouri Rivers. As Frank Norall has written, these facts indicate “a motive and a purpose—and perhaps sponsorship” from French colonial officialdom.¹⁴ These ‘private-public partnership’ efforts were in stark contrast to the Spanish model of state sponsored exploration. It was much easier for French than Spanish officialdom to undertake, and finance, exploratory missions and frontier infrastructure such as forts. Commercial goals were more visible in the French model.

Bourgmont’s excellent journal of this riverine mission is available in translation in Norall (1988); as it was solely a marine expedition it has almost no direct bearing on this discussion. Bourgmont ascended the Missouri as far as the mouth the Platte River, noting that the Panis [Pawnee] had ten villages “30 Leagues up this river”.¹⁵ This journal was however indispensable

¹⁰ “French exploration of Southernmost Illinois: Va Bache Tannery,” Southern Illinois History. < <http://www.southernmostillinoishistory.net/> >. Accessed June 6, 2010. This enterprise was in part a response to the threat of English traders establishing ties with Mississippi Indians, a policy of Louis XIV from 1698. Eccles, W. J. *The French in North America: 1500-1783*. Rev. ed. (Markam ON: Fitzhenry & Whiteside, 1998): 113.

¹¹ Norall(1988): 28.

¹² Henri Folmer, "Etienne Veniard De Bourgmont in the Missouri Country." *Missouri Historical Review* (36, 1942): 290-94.

¹³ Norall(1988): 21.

¹⁴ Norall(1988): 21.

¹⁵ “The Route to be taken to ascend the Missouri River.”

in the production of a paradigmatic document, the justly famous “De L’Isle Map of 1717.”¹⁶ This map allows for the first direct discussion as to the meaning in Gallic terms of “Desert”, for this map not only introduces the term geographically, it provides a graphical definition. Guillaume de L’Isle (1675-1726) was an associate of the Académie des Sciences and the first official French court geographer. He is renowned for advancing the science of mapping, and producing, among other notable maps, the first detailed and relatively ‘true’ map of interior North America. “Carte de la Louisiane et du cours du Mississippi”¹⁷ (below) shows the accumulated knowledge of French argonauts to that time.



Figure 6.1. Guillaume d’L’Isle. “Carte de la Louisiane,” 1717(?).

¹⁶ Delisle, DeLisle, et cetera.

¹⁷ Guillaume d’L’Isle. “Carte de la Louisiane et du cours du Mississippi, dressée sur un grand nombre de mémoires entr’au tres [i.e. entr’autres] sur ceux de Mr. le Maire, par Guillaume de l’Isle.” Imprint: [Paris? 1717?] Description: map 36 x 41 cm. Scale ca. 1:6,200,000. Courtesy of the Regenstein Library Map Collection, Chicago. Photograph by the author.

“Carte de la Louisiane” contains some errors to be sure. Perhaps first among these is the gross underestimation of the breadth of the Great Plains; a misconception shared by the Spanish. Also, De L’Isle had his Plains rivers: the Rouge, Arkansas, Canses, and Panis (*Platte*), run north-south rather than west-east; this would throw off argonauts for decades to come (Figure 6.2). The Rio Grande, of which the French had scant first-hand knowledge, was grossly elongated, stretching nearly to Canada. On the other hand, absent for the first time was the great interior lake from which these rivers were supposed to have risen. Here, the author correctly has them rising in the yet unnamed western mountains; the actual source waters had yet to be observed and recorded. Of particular interest is the accurate representation of the course of the Mississippi, which is figured almost perfectly to its headwaters. The Missouri, of which they now, after Bourgmont 1713-14, had experience, is also accurately shown as far as the *White River* [43°41’55”N x 99°26’10”W]. Missing is any sense of the big due-west bend towards its head in the Rocky Mountains. The various Plains aboriginal groups portrayed are for the most part uncannily placed; this is reflective of the French traders’ knowledge base of river systems in relation to aboriginal groups and fur production.

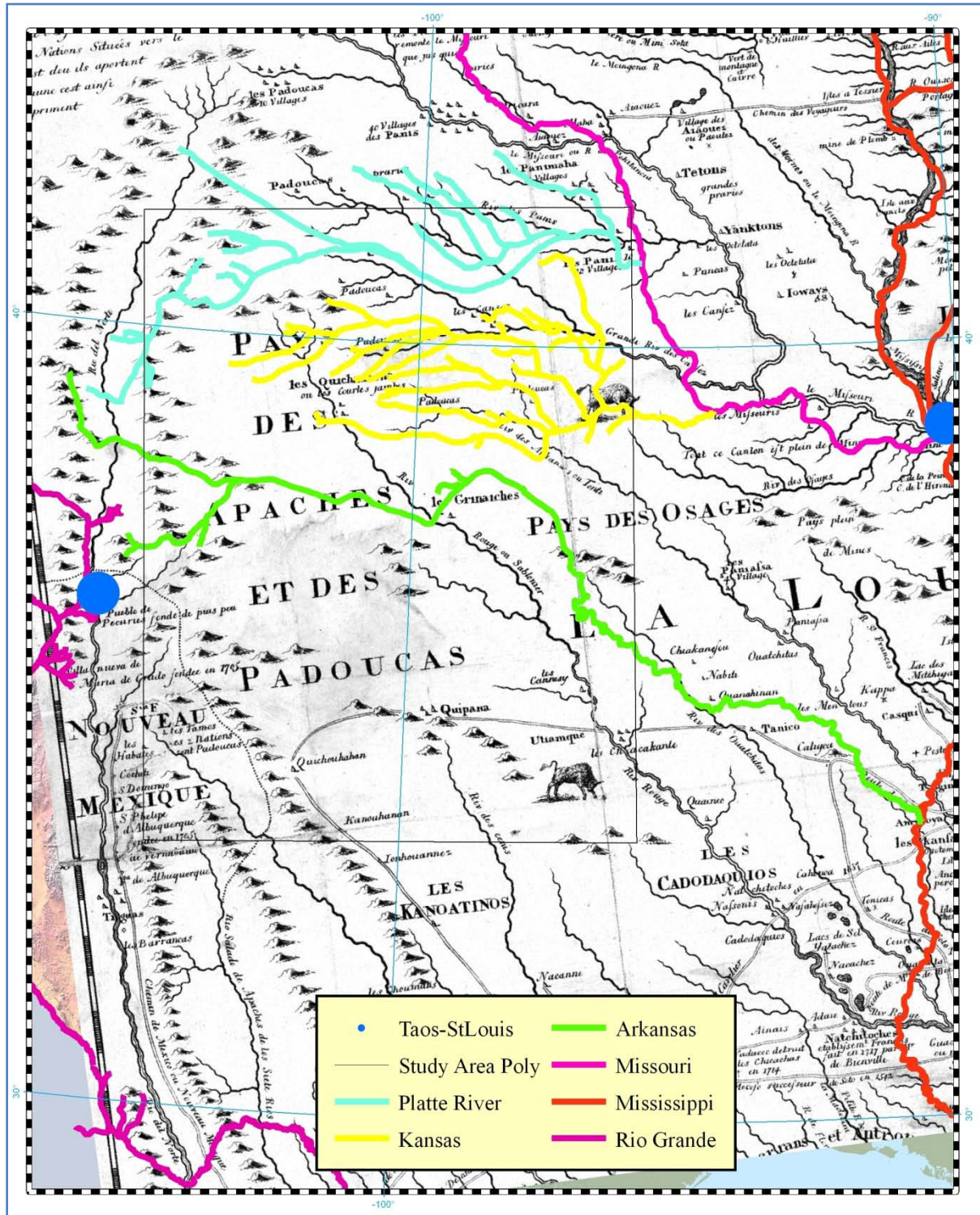


Figure 6.2. Georectifying d’Lisle to ESRI Rivers. D’Lisle was georectified to Albers Equal Area Conic projection. The blue dots represent the links between the drawn map and real world coordinates of the junction of the Missouri and Mississippi Rivers, and Taos NM.

The key information is d'L'Isle's understanding and visual distribution of deserts. The only desert named on this map is the *Desert du six vint lieues d'entendue ou les Illinois font la Chaise des boeufs*, or, "120 league desert where the Illinois Indians hunt bison." This is precisely the French understanding of desert at this time. The desert in question is on and above the *Ohio ou la Belle Riv*; this land was in fact tall grass prairies, and about as far from being an environmental desert a region can be. To the French, a *desert* was not an ocean of sand, snow, or open water, but a place where *Sauvages* chased bison (Figure 6.3).



Figure 6.3. French Desert.

The *Dictionnaire de l'Académie française* (1st ed. 1694) defined desert (adjective) as "Inhabité, qui n'est guere frequenté"; uninhabited, unfrequented.¹⁸ As a noun it mean "a deserted place," "wild", or "frightful." The examples given were either literary, *La Thébaïde* (Jean

¹⁸ *Dictionnaire de l'Académie française* (1694). University of Chicago Library, ARTFL Project. "Dictionnaires d'autrefois," <http://artfl-project.uchicago.edu/node/17>. Accessed June 14, 2010. The *l'Académie française* was founded in 1635 by Cardinal Richelieu and the first of eight editions of the dictionary was published in 1694.

Racine, 1664), or literal, *de Libye* and *l'Arabie*. The dictionary included no environmental meaning, however. By the fourth edition, the *Dictionnaire* included the concept of man-made deserts, as in “the Turks made vast deserts of the *“plus belles Provinces de l'Asie.”* This meaning remained static until the eighth edition of 1932-35, which was the first to mention specifically “*Le sable des deserts,*” or “desert sands”.¹⁹ The meaning remained primarily cultural still: “*Zone inculte et dépourvue d'habitants,*” or “Uncultivated area devoid of inhabitants.” Since de L’isle’s map clearly shows human occupation on his desert I believe the commonly accepted meaning in Bourgmont’s day was: ‘A desert was a place where savages ruled, and the ground was not cultivated’.

Another crop from the same map (Fig. 6.4) shows how d’L’Isle extended this desert motif westward onto the home ranges of the “Apaches et des Padoucas”. Here the *boeuf* or bison appears in relation to those aboriginal groups the French then knew to live primarily off that resource, the Apache and Panis. These motifs lay across the precise region that Major Long’s 1820 map would textually accuse of constituting the Great American Desert.



Figure 6.4. Extended French Desert.

¹⁹ *Dictionnaire de l'Académie française*, 8th Edition (1932-5). University of Chicago Library, ARTFL Project. “Dictionnaires d'autrefois,” <http://artfl-project.uchicago.edu/node/17>. Accessed June 14, 2010.

Spanish fears of French expansion were well-founded, partly because of the effort the French exerted and partly because of the mode of that exertion *vis a vis* the Spanish. The two modes of colonialism were markedly dissimilar. The French were more successful in their temporally more limited efforts than were the Spanish in their centuries-long campaign *to benefit from* the Great Plains. Conquest and colonization of the Study Area was never a goal for either group.²⁰ The French however achieved more commercial success than did the Spaniards because the French enterprise was a commercial one, whereas Spanish argonauts'

lack of goods and their desire to acquire quick gold by dividing and conquering Indians had made [them] useless or worse for the region's native peoples ... the French brought not demands and destruction but valued trade goods [and] valuable ties to European manufacturing[.]²¹

The French did indeed make pressing and sometimes outrageous demands of their hopeful Indian clients, but they also supplied goods that made those demands palatable.²² Neither the French nor the Spanish could entice or force their people to settle the region.

In 1717, France folded Illinois and Louisiana territories into one jurisdiction, Louisiana. New Orleans was established in 1718 by Sieur de Bienville (le Moyne) and settled by French and Canadians. Upriver from New Orleans trade forts were established on riverine junctions at the Kaskaskia in 1703, as well as on the Missouri and the Illinois Rivers.²³ These places were unsurprisingly unattractive to French settlers, particularly women, and the disease-ridden bog that was New Orleans was in part settled with some two dozen prostitutes released from French prisons.²⁴

²⁰ I concur with Kathleen DuVal that French Louisiana "as a colony was meant to be permanent." DuVal (2006): 65. However, the Study Area was but a hinterland to both French Louisiana and the larger French enterprise.

²¹ DuVal (2006): 65.

²² DuVal wrote primarily from French sources and *The Native Ground* has an interesting but flawed approach to the Osage. By concentrating on French/Osage relations and history the author greatly underestimates Osage presence on the Plains, and this is a better study of the Quapaw than the Osage. There is a strange misrepresentation at work here that visually places DuVal's study region along the Arkansas River on the Plains (see Map 1, page 3), while the book primarily discusses events of the lower Arkansas.

²³ Arthur M., Jr. Schlesinger, ed., *The Almanac of American History*, (New York: Perigee Books, 1983). Louisbourg and Fort Niagara were both established in 1720.

²⁴ Schlesinger (1983): 79.

In 1719 Bernard la Harpe, a French trader, made one successful transit from Tejas; from Caddo towns on the lower *Red River*, across the *Wichita Mountains* to a massed camp of “Tawakonis, Taovayas, Guichitas, Iscanis” on the Arkansas River, likely below *Wichita KS*.²⁵ This group of groups, was likely the remnants of Quivara, which Bourgmont would reveal was now defunct as an agriardo.²⁶ These Indians eagerly sought trade with the French seeking “weapons for them to defend themselves against their enemies,”²⁷ who were apparently legion. These enemies included the ‘recently’ arrived Osage who pressed from the east. In return for arms the Caddo groups promised bison products, salt, tobacco, horses, and slaves. They were “uneasy” about la Harpe’s plans to trade with the “Wichita and Caddo” upriver but could not afford to anger French traders.²⁸

La Harpe attempted a return trip up the Mississippi/Arkansas rivers in 1722 that was thwarted by Quapaw/Osage on the lower Arkansas River. In the intervening years another French trading party had disappeared without trace into Osage territory upstream.²⁹ The Quapaw had no interest in allowing French trade with upriver or plains groups and were willing to enforce their prohibition even at the cost of good relations with the French. The Quapaw/Osage were arbiters of trade up the Arkansas from the French posts on the lower Mississippi. This explains why the Osage would withdraw from supporting Bourgmont’s enterprise. Bourgmont, now, Sieur de Bourgmont, was paid by the governing body of Louisiana—the Council of the Colony—some 4,000 *livres* in 1720 to secure trade treaties with the “Illinois and other

²⁵ Kathleen DuVal, *The Native Ground: Indians and Colonists in the Heart of the Continent*, (Philadelphia: University of Pennsylvania Press, 2006): 92. Wichita is located on the Arkansas between the junctions of the Little Arkansas to the north and the Ninnescah River to the south [97°20'W x 37°41'N]. The region has been occupied by hunting, trading, and agricultural aboriginal groups since time immemorial.

²⁶ I think this would help make a case for the Quivira having been a collection of Jumano groups as opposed to one distinct cultural group. Both Coronado and Oñate give evidence for multiple groups around Quivira. This would have been in keeping with Jumano presence which integrated many groups under one cultural-linguistic group ‘umbrella’.

²⁷ DuVal (2006): 93.

²⁸ Willard H. Rollings, *The Osage: An Ethnohistorical Study of Hegemony on the Prairie-Plains*, (Columbia: University of Missouri Press, 1995[1992]): 115ff.

²⁹ Smith, Ralph A. and Bénard de La Harpe, "Exploration of the Arkansas River by Bénard de La Harpe, 1721-1722: Extracts from His Journal and Instructions." *Arkansas Historical Quarterly* (10:4, (1951[1722]): 339-63. While La Harpe did not enter the Study Area this journal is a useful environmental source, although unfortunately unmappable. For instance, bison were found sporadically and in groups of several animals along the lower Arkansas. The groups also encountered continuous wet weather including snowfalls a foot deep in November and December.

countries.”³⁰ Bourgmont returned to France with his small fortune taking with him, scandalously, his son by his Missouri wife. Apparently France was no longer home for Bourgmont and he was back in America within a year or two.

In his absence from Louisiana, the aforementioned “Villasur affair” had inflamed French sensibilities. While the precise location of these events is a mystery, George Hyde reckoned the Spanish group met its end at the hands of the Skidi Pawnee near *Grand Island* on the Platte.³¹ This was far too close to French/Canadian trade interests and attracted attention from Paris. It was in direct response to the Villasur enterprise that Paris sent Bourgmont to fashion peace on the Plains. Peace was not necessarily in the interests of French traders or their allies who profited heavily from the illicit trade in Padouca slaves, and Bourgmont apparently faced much “covert opposition” from “French officials in America” to his enterprise on behalf of the crown.³²

Bourgmont, 1724: Wooing the Padouca.

“M. La Renaudière” a highly literate mining engineer and entrepreneur who accompanied Bourgmont kept the party’s journal. In the journals Bourgmont is referred to in the third person, and the journal was kept through periods of dire illness that incapacitated Bourgmont for days at a time. This section utilizes an English translation hosted online at *NebraskaStudies.Org* by the Nebraska State Historical Society and Nebraska Department of Education,³³ used primarily as a shorthand source for distances, et cetera (after, Bourgmont Journal: date). The source is unidentified, but is identical to Frank Norall’s translation. Norall used the original document in

³⁰ Norall(1988): 29. Considering the Illinois and other groups as “countries” is indicative of the French understanding of aboriginal groups at this time and place, which is somewhat contradicted by the relentless use of “Sauvages” as a descriptor of these peoples.

³¹ George E. Hyde.*The Pawnee Indians*. 2nd ed. (Norman: University of Oklahoma Press, 1988[1951]): 66ff, map at 121. I believe it could have been Pawnee who killed Villasur, but that it was unlikely he was the only Spaniard to have ranged that far northeast. I do not believe the Villasur episode took place anywhere near the Missouri, but rather belongs to the history of the Pawnee and the Smokey Hill River / Platte River nexus west of Hyde’s site.

³² Hyde (1988): 68, and 76, n 32. Hyde listed as his authority documents in *Nebraska History*. French commander at Kaskaskia, Broibisant, wrote in 1720 that one Kansa/Oto raid netted 250 Padouca slaves, and another 100, of whom “they were ‘burning’ a few each day.” French traders wanted horses as well as slaves.

³³ Bourgmont, Étienne de Veniard, sieur de, “The 1724 Journal of de Bourgmont,” http://www.nebraskastudies.org/0300/frameset_reset.html. Translator not identified.

the Archives de la Marine, Paris.³⁴ Also consulted was the French language transcription of Pierre Margry which was made from the original journal.³⁵

³⁴ Archives de la Marine, Archives Nationales, Paris. Serie 2JJ 55: 26, fols. 1-44.

³⁵ Étienne de Veniard, sieur de Bourgmont, "Relation du voyage du Sieur de Bourgmont, Chevalier de l'Ordre Militaire de Saint-Louis, Commandant de la Rivière du Missouri aux Padoucas," Pps. 398-449 in, Pierre Margry, editor, *Exploration des Affluents du Mississipi se Découverte des Montagnes Rocheuses (1679-1754)*, Sixième Partie. Paris: Maisonneuve et Ch. LeClerc, Éditeurs, 1888.

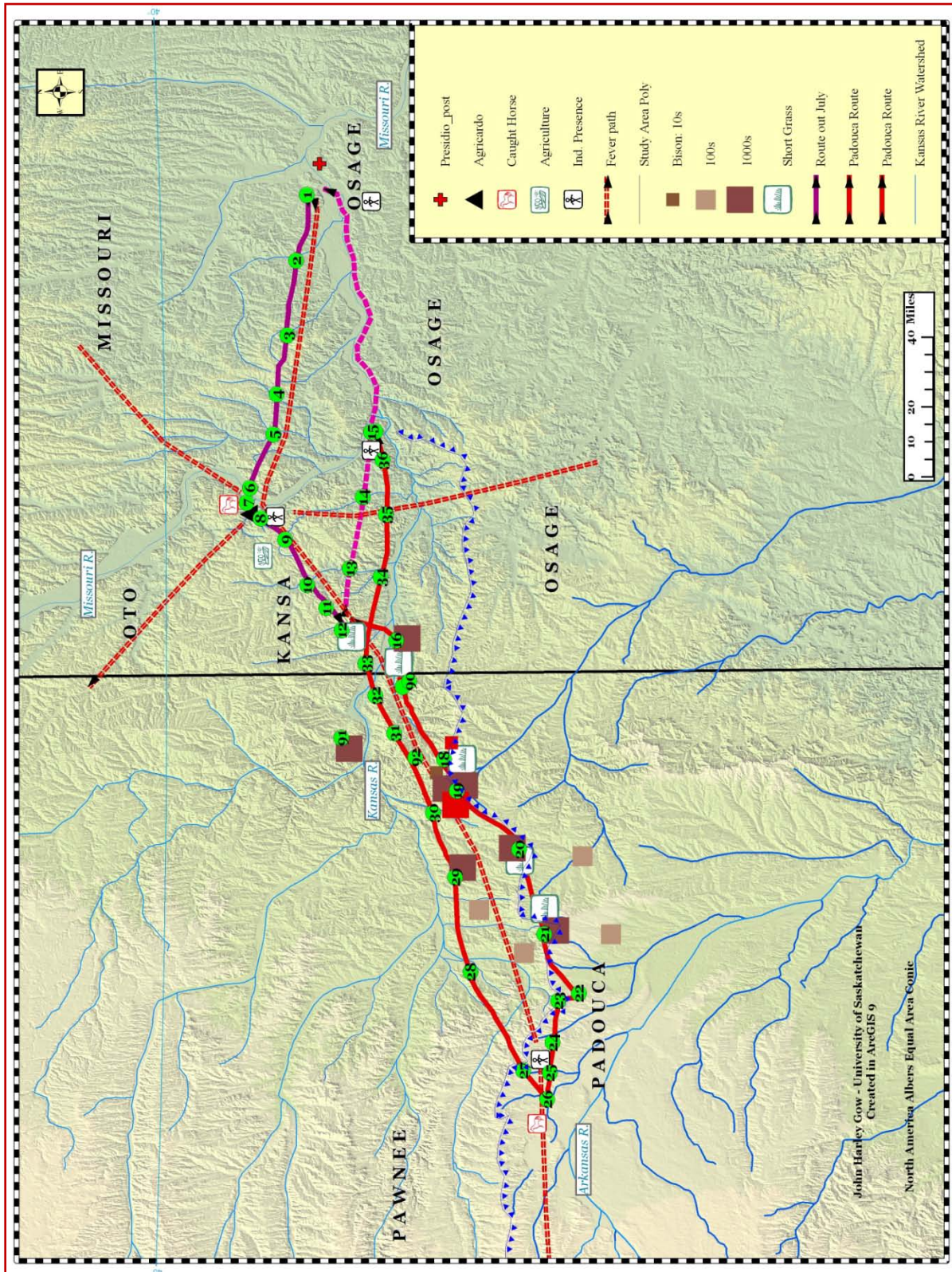


Figure 6.5. Bourmont Route & Data, 1724.

On July 3rd 1724 Bourgmont set out by land from Fort d'Orleans [**Point 1**]³⁶ in company with ten French and Canadian soldiers and civilians, with "100 Missouris commanded by eight war-chiefs and the head chief of the tribe, and 64 Osages commanded by four war chiefs of their tribe." On June 25th another party commanded by M. de Saint-Ange, "ensinge du Fort d'Orleans," and consisting of fourteen soldiers, five Canadians, and two *engagés* of Renaudière had set out by pirogue; the two modes of travel make for an interesting comparison between horse-borne versus river-borne transport. Bourgmont, travelling by horse, covered thirty-six leagues in seven days, was then forced to wait eight days for the riverine group to show up at the Kansa town. Travelling upstream and dealing with continual oxbows and elevated current of the Missouri, the marine group took twenty-one days to travel one hundred 'as th crow flies' miles. This illustrates perfectly why the travel distances of marine argonauts helped confound geographic knowledge and mapping. Illness was also a factor slowing progress, impacting both shore and river groups.

There is no definitive primary source as to the location of Fort d'Orleans. This point was located by following the route backwards from the Missouri, given the excellent headings and verifiable travel distances given. I place the fort above the junction of the Grand River and the Missouri, almost exactly ninety miles by the Measure Tool from the Kansa town; this precisely corresponds to the thirty leagues travel noted in the journal. On the first day of land travel they crossed "two small rivers", made six leagues in very warm weather [2]. On July 4th they travelled six leagues noting that it was "cooler on the hills", and crossed three small rivers. "Well-beaten paths" through "broad prairies" sped their way. They saw herds of deer, and "Our Indians [killed] about 20 deer and several turkeys." The many small valleys contained trees "loaded with hazelnuts"³⁷ [3].

On July 5th the journalist made an exciting entry:

³⁶ Fort d'Orleans had a brief life, and its geographic location is a bit of a mystery. A palisade post, it was apparently abandoned after two or three years. Fort d'Orleans would be supplanted by St. Louis area posts, and later, posts further up the Missouri. "Plan du Fort D'Orleans" plainly shows the site to be on the north shore of the Missouri above an island and below two forested hills; It appears to have been built safely above the flood plain on a small lake.

³⁷ Bourgmont Journal — July 4, 1724. http://www.nebraskastudies.org/0300/stories/0301_0112_03.html.

By our estimate, we travelled six leagues, following a compass heading of west by a quarter west-northwest. We crossed some brooks and noticed clumps of trees here and there [à droit et à gauche].³⁸

Bourgmont was one of only a few of the argonauts who owned a compass and apparently knew how to use it; unfortunately he did not relate his daily usage. This makes this journal eminently mappable. Another distinction of this journal is the complexity of description. Renaudière made the distinction throughout between rivers and brooks. Missing are descriptions of grasses. However, given that there were “clumps of trees here and there” meant that they travelled through prairie and not woods. They followed the crest of highlands roughly paralleling the Missouri, as did the aboriginal road. Elsewhere references to the heights being cooler than valleys—*bon air sur les costeaux*—combined with the open parkland on the heights makes this choice of route eminently sensible [4].³⁹

Frank Norall depicted this route as following the Missouri bottoms along the river to the Kansa town.⁴⁰ This looks like a sensible choice on maps which show the river valley as a tempting flatland. However, figuring this route with the ArcMap Measure tool yields 115 miles or nearly forty leagues; a third longer than reported. Further, all the argonauts surveyed herein stayed away from riverine lowlands especially in the hot, muggy summers. While topographic maps portray river bottoms as uninterrupted swathes of green, the ground reality was much different as canals, mud lakes, multiple river channels, cane and brush combined with heat, humidity, and swarms of insects made the easier-appearing route a nightmare. As William Clark would note nearby on June 17, 1804, “the Ticks and Musquetors are beginning to be very troublesome.”⁴¹ If the malaria virus was then present, these summer river bottoms were the

³⁸ Bourgmont Journal — July 5, 1724; and, Bourgmont, Margry (1888): 399.

³⁹ July 4, Bourgmont, Margry (1888): 399.

⁴⁰ “Route of the Padouca Expedition, 1724.”

⁴¹ William Clark, “Journal”, June 17 Sunday 1804. Somewhere along the stretch of the Missouri near the Grand River mouth on the north shore. Gary E. Moulton, ed. *The Definitive Journals of Lewis and Clark: From the Ohio to the Vermillion*. 13 vols. Vol. 2, (Lincoln: University of Nebraska Press, 1986): 306. On June 16th Clark figured they were near the site of the “old fort”, meaning Fort d’Orleans. Jacques Marquette hereabouts reported a native strategy for sleeping through the mosquito problem involving making a platform over a smoky fire. Jesuit Relations, p. 145, LIX “Voyages du P. Jacques Marquette, 1673-75. Reuben Gold Thwaites, ed. *The Jesuit Relations and Allied Documents*, Cleveland: Burrows Brothers, 1907.

perfect place to acquire it.⁴² The fact they encountered good roads on the highlands make clear that Plains/Prairie Aboriginal groups also preferred the more direct and comfortable overland routes.

July 6th they met an advance party of Kansa who informed them their grand chief waited ahead. On greeting the unnamed chief, there was a feast and smoking of the calumet. Osage and Missouri were also present, indicating a formidable alliance of groups associated with the Kansas–Missouri Rivers. This is also testament to Bourgmont’s import as a source of trade goods. I disagree with the Norall translation this day that they crossed one river, as Margry has them crossing one river and then crossing and camping on “une belle rivière”⁴³ that I make out to be the *Platte River of Missouri* [5]. They camped on “the high ground of the prairie”⁴⁴ On July 7th they marched a league through prairie before entering a forested, hill region descending to the the Missouri River, which they struck after seven leagues of travel [6]. There is nothing in the text to describe the grasses of “prairies”, but a later observation about encountering short grasses combined with modern knowledge about grass regimes is enough to convince this writer that when Bourgmont wrote “prairie” he referred to the tall grass prairies encountered then as now along the wetter and lower lands of the Mississippi and lower Missouri basins. The French meaning of ‘prairie’ was in 1724, according to the *Dictionnaire de l’Académie française*, “a broad stretch of land in pasture or hay suitable for grazing.”⁴⁵

From this point they crossed the Missouri on the 8th “[i]n a pirogue, with the horses swimming, and the Indians on rafts” and landed a “fusil-shot away from the Kansa village” where they camped. There is no evidence to indicate any use of canoes or pirogues by these

⁴² Malaria was most likely a European/African export to the Americas. It is believed malaria could not survive the transit over the Beringian land bridge, and there was no oral or physical record of the disease existing in the Americas pre-Contact. Bourgmont had the disease, where he acquired it is unknown, most likely in New Orleans. By 1800 malaria was known as Missouri Fever by Americans as it thrived so well along the Mississippi/Missouri in those warmer and wetter times. For malaria, see Margaret Humphreys. “Malaria: ‘Evil’ Air and Mosquitoes.” In *Plague, Pox & Pestilence: Disease in History*, edited by Kenneth F. Kiple, 98-103. (London: Phoenix Illustrated 1997).

⁴³ “Jeudy 6”, Bourgmont, Margry (1888): 399. Following Norall’s plotted route makes such observations a problem as the topography shows that many streams merge inland of the river valley, making it impossible to accord with Bourgmont’s various crossings following the river valley. This is another case of the utility of HGIS methodology.

⁴⁴ Bourgmont Journal — July 6, 1724.

⁴⁵ Dictionnaire de l’Académie française, 4th Edition (1762). <http://artflx.uchicago.edu/cgi-bin/dicos/pubdico1look.pl?strippedhw=prairie>. Accessed June 7, 2010.

Indians, the Kansa, Osage, and Missouri, who were observed to make rafts when necessary. The location of the Kansa town [7] is reasonably clear. The route taken from this point shows they were some fifteen leagues north of the Kansas mouth. Many sources, historical, archaeological, and anthropological, point to centuries-long occupation of this region of *Kansas*. Key to this point is the fact they left here along a river uniquely flowing from the southwest [8].

Bourgmont was presented with two horses as an opening gambit by the Kansa, who knew him from previous encounters. The Frenchmen were presented with “peltries and food” spread out on a “large bison robe.”⁴⁶ In the afternoon Bourgmont received news that the marine group had “several of their French crew...ill with fever and unable to travel.” There is no description of this fever, which the Frenchmen brought with them. Bourgmont would soon suffer terrible fevers and pains in “the kidneys”. The contagion quickly spread to the various aboriginal groups and many died. Also, some groups would flee to outlying towns, taking the fever with them [Fever path polyline].

Thus began a long, enforced residency at the Kansa town that would wear on hosts and guests alike. On the 9th Bourgmont sent an emissary to the Otos, and “Missouris and Osages” arrived “in bands of 25-30 at a time.”⁴⁷ On the 10th, things were relaxed and hunters arrived in camp “loaded down with deer”; there were no bison here on the tall-grass prairie on the lower Missouri River. On the 11th it is revealed that Bourgmont had his third attack of fever since leaving the fort. Also, “two Padouca slaves M. Bourgmont brought with him in order to return them to their tribe” died in the morning of the fever.⁴⁸ The slave trade was at least as important as the horse-trade on the Missouri River in 1724. Only furs and peltries seem to have been accorded as much weight in Bourgmont’s dealings. Prior to the Bourgmont rapprochement with the Panis, “women and children of the Panis (Pawnee) nation” were enslaved and shipped as far away as Canada.⁴⁹ In the mid 1700s as many as sixty Panis slaves found their way through Cree and Assiniboine intermediaries, and ‘Panis’ “became a generic word for slave”. On the 12th, “30 Padouca slaves” were brought in and made to dance for Bourgmont. The Kansa owned these

⁴⁶ Bourgmont Journal — July 8, 1724.

⁴⁷ Bourgmont Journal — July 9, 1724.

⁴⁸ Bourgmont Journal — July 11, 1724.

⁴⁹ W. J. Eccles, *The French in North America: 1500-1783*. Rev. ed., (Markam ON: Fitzhenry & Whiteside, 1998): 86. Eccles quoting, Marcel Trudel, *L’esclavage au Canada français: histoire et conditions de l’esclavage*. (Québec: Presses universitaires Laval, 1960).

slaves, and it must have been a complication for Bourgmont in his efforts at a rapprochement between the two groups.⁵⁰

Kansa houses were made of pilings arrayed either in circles of 30 to 60 feet diameter or in rectangles up to sixty feet long. From the pilings, poles were bent to form a roof frame then topped with hides, grass, even sod. From three to five families lived in each, meaning as many as thirty people lived in the large houses. The towns were agricultural and Kansa women grew corn, beans, squash and melons, and “prairie potatoes.”⁵¹ The Kansa kept food in underground caches. Kansa towns were large for defensive purposes. George Sibley counted 128 large houses in the main Kansa town in 1811.⁵² The main Kansa town then qualified as an agricardo, particularly in view of its role as a trade center. Kansa agriculture was at least a Type B level because of surpluses and storage, Bourgmont does not give enough information to suggest they had a dedicated infrastructure. This town was a magnet for traders and trade goods of all sorts.

The Kansa were becoming greatly annoyed with the delayed arrival of the pirogues. Over the next few days the fever spread through the Kansa although they continued to sell food to the argonauts for trade goods. Deer carcasses continued to arrive at the camp, and the Kansa brought in great quantities of grapes, from which they made “wine, which we drink every day and find very good.” Presumably, it was very immature but robust reds being consumed. On the 16th, the marine party finally arrived at the Kansa town, several “sick with fever”.⁵³ The following day, July 17, after the pirogues had been filled with traded furs for return to Fort d’Orleans, Bourgmont delivered his pitch to the Kansa.

Bourgmont said he appreciated the Kansa having kept in good condition a French flag he had given them a year before. The King of France wanted peace between the Kansa–Osage⁵⁴ confederation and the Padouca, with whom they were continually at odds. If the confederation refused they would be “destroyed entirely” by the French. More to the point—likely more probably in the Kansa view—trade would be suspended with the French. To this end, Bourgmont

⁵⁰ For discussion of slavery see , Henri Folmer, "Etienne Veniard De Bourgmont in the Missouri Country." *Missouri Historical Review* (36, 1942): 290-94. Also, Unrau(1971): 60ff.

⁵¹ William E. Unrau. *The Kansa Indians: A History of the Wind People 1673-1873* (Norman: University of Oklahoma Press, 1971): 38.

⁵² Unrau (1971): 39.

⁵³ Bourgmont Journal — July 16, 1724.

⁵⁴ The Kansa and Osage are both of the Dhegiha Siouan language group, as are the Quapaw on the southern Arkansas River.

was going to the Padouca to offer them treaty, and he expected the confederation to peacefully accompany him in this effort. Those who complied would benefit from French trade and be able to exchange as many pelts as they could carry to exchange for “the merchandise you require for your tribe.” Bourgmont closed with an exhortation for the Kansa to “[b]ring whatever horses you have; I will trade for them and pay you well, for I need them for my voyage to the Padoucas.”⁵⁵ George Hyde noted that the Kansa and their allies were against peace with the “hated Padoucas” and temporarily having the upper hand with French firearms would have preferred open war over peace.⁵⁶ However, the Kansa highly valued French trade and did not want to alienate Bourgmont.

A major focus of this dissertation is to situate human groups in relation to their environments and geography. The “Padouca” whom Bourgmont was going to treat with were unequivocally the Plains Apache, and likely the furthest eastern group of El Cuartelejo as referred to but not encountered by Ulibarri in 1706. There is in the literature much confusion as to what or whom “Padouca” refers to. Elizabeth John and Dan Flores, for instance, use the term to describe Comanche groups: I believe this to be incorrect. Flores uses Padouca to describe Hietans, the term trader Anthony Glass and others historically called the Comanche. In *Journal of an Indian Trader*, Flores has Padouca in his index as an interchangeable term for Comanche.⁵⁷ However, Glass himself never used the term in his journal, always using the signifier Hietans. John, in *Storms Brewed in Other Men’s Worlds*, uses the term once to describe a Comanche division “the Ietan and Padouca divisions of the Comanche.”⁵⁸ She ascribed this usage to a Spanish Governor circa 1756, without clear citation. Lewis and Clark and Indian place-names expert William Bright wrote that “Paducah” was a Siouan exonym meaning ‘enemy’, and traced the word through the Quapaw, Oto, and Osage dialects.⁵⁹ This signifier was adopted by the

⁵⁵ Bourgmont Journal — July 17, 1724.

⁵⁶ George E. Hyde, *The Pawnee Indians*. 2nd ed. Norman: University of Oklahoma Press, 1988[1951].

⁵⁷ Dan L. Flores, ed. *Journal of an Indian Trader: Anthony Glass and the Texas Trading Frontier, 1790-1810*, (College Station: Texas A&M University Press, 1985).

⁵⁸ Elizabeth Ann Harper John, *Storms Brewed in Other Men’s Worlds: The Confrontation of Indians, Spanish and French in the Southwest, 1540-1795*, (Lincoln: University of Nebraska Press, 1981[1975]): 348.

⁵⁹ William Bright, “A Glossary of Native American Toponyms and Ethnonyms from the Lewis and Clark Journals,” The Journals of the Lewis and Clark Expedition Online. http://libxml11a.unl.edu/lewisandclark/read/?_xslsrc=lc.bright.01&_xslsrc=LCstyles.xsl. Accessed June 6, 2010.

French, and over time this usage seems to have been applied to anyone who lived in the area where the French and Siouans first applied this term to the Apache. The name later migrated to the Comanche. I have found no incidence of the Spanish using Padouca to mean Comanche, and concur with George Bird Grinnell that “the Padouca were not the Comanche and I am disposed to regard them as Apache.”⁶⁰

The next day, July 18, the journalist described the bartering for horses. After much haggling, Bourgmont wound up paying a “large pile of goods”, plus several measures of powder, “30 balls, six strings of beads, and four knives,” and other merchandise for *each* Kansa horse. The high cost indicates the scarcity hence value of the resource. The Kansa balked, saying that “other Frenchmen” and the Illinois had offered to pay twice as much for Kansa “horses and slaves”; the Kansa had sold “15 slaves” to the Illinois in one exchange. Bourgmont threatened to suspend negotiations, which inspired the Kansa chief to make an offer.

We ask you once more to make use of us on your expedition to the Padoucas. We have learned that you wish to depart tomorrow by water in your pirogues, with the Missouris and the Osages, to go to the Otos, Iowas, and Panimahas [Skiri Pawnee] to take them with you to the Padoucas, but we beg you to make use of us. We have at least 500 warriors, who are ready to march with you and who will carry the supplies and merchandise that you have brought for your needs, and we promise you absolutely not to abandon you. Whether you make peace or war, we will not leave you; you can count on us, as much as you do on the Frenchmen that you have with you. Here are five slaves, whom we give you as a present, along with two horses and some bundles of peltries. We ask you on behalf of our entire tribe to accept them and to believe that we are your children.⁶¹

The value that these groups placed upon the French trade is revealed by a letter Bourgmont wrote. A [Kansa?]

Indian killed a Frenchman while I was absent. I had him killed in the middle of his own village by having his brother shoot arrows into him. To show that there were no hard feelings, the brother sent me a nice present [.]⁶²

The following day the Kansa traded five horses, six slaves, and food to Bourgmont. The Missouris built rafts to ferry their sick home, and Bourgmont’s “other Padouca” slave woman died of fever; the Osage greatly feared the fever. On the 20th all the Osage returned home, leaving Bourgmont with only twenty Missouri who had left the fort with him. On the 23rd the

⁶⁰ George Bird Grinnell, “Who Were the Padouca?”, 258-60, *American Anthropologist* (22: 3, 1920): 60.

⁶¹ Bourgmont Journal — July 18, 1724.

⁶² Norall (1988): 49. “Letter of 18 February 1724 to the Council of Louisiana.”

pirogues finally departed downriver heavily loaded with “the sick, and the slaves and peltries that the Frenchmen have acquired by trading.” Bourgmont, while returning Padouca slaves for political purposes, was also engaged in trading Padouca slaves.⁶³

July 24th, after a residency of sixteen days they finally left the Kansa town “with drum beating, flag flying, and with all our firearms and baggage”; they made one and a half leagues the first day. The Kansa chief ordered the stop, explaining it was the normal assembly area. This was on “*une rivière qui vient du costé du Sur-Ouest*”⁶⁴—a river that comes from the southwest—I make this out to be *Deer Creek* [8].⁶⁵ On the 25th they cleared some highlands and turned west making two and a half leagues, crossing a small river, *Stranger Creek*, and then stopping for another great storm [9]. They were slowed by the large number of women and children who lagged behind. These ‘non-combatants’ would not accompany Bourgmont to the Padouca, but were rather engaged upon the seasonal bison hunt, and would travel only so far as the great herds. Perhaps the delay in setting out to the Padouca had more to do with the timing of the Kansa seasonal round than it did with Bourgmont’s plans. The Kansa went to the hunt after curing their crop of corn.⁶⁶ They found a great herd of deer and some Kansa returned to camp saying they had seen a party of Padouca warriors. Bourgmont sensibly did not believe this report, but at dawn of the 26th he sent out “M. de Saint-Ange ... with eight Frenchmen and 150 Indians to make a reconnaissance” who returned and reported the sighting “a false alarm.”⁶⁷ They made only a league to the west and camped in the midst of another storm. The terrain featured “depressions where there is some water, beautiful prairie, hills, and little valleys, with clumps of woods from time to time.”

On the 27th they followed the compass to the west, making only three leagues, crossing and camping on a little river, *Delaware River* [10]. They were slowed by “the heavy burdens carried by the Indians.” Bourgmont provided a good description of the Kansa here. They

⁶³ Bourgmont Journal — July 23, 1724.

⁶⁴ Bourgmont, Margry (1888): 411.

⁶⁵ Norall and the Nebraska editor both make this out to be “Deer Creek”. An annoying tendency of some writers and mappers is to assume the primacy of a name; there are at least six Deer Creeks in Kansas alone. This is the Deer Creek, *Shannon County*, the only stream south of the Doniphan bend to flow northeast.

⁶⁶ William E. Unrau, *The Kansa Indians: A History of the Wind People 1673-1873* (Norman: University of Oklahoma Press, 1971): 38.

⁶⁷ Bourgmont Journal — July 26, 1724. I have never seen a reference to Padouca raiding anywhere near the Missouri River.

numbered “300 warriors with two great chiefs and 14 war chiefs, and about 300 women and 500 children.” This massive party of 1100 Kansa makes the short travel distances comprehensible. This figure was not the entire town population, as elders and other remained at the townsite; perhaps the main Kansa town numbered some 1500 persons in 1724. 300 dogs dragged as much as “300 pounds” of gear each, with one dog towing a travois [the word was not used] with the poles and hides of a tent “big enough to sleep 10 or 12 persons” as well as all the utensils.⁶⁸ Bourgmont was also impressed by the ability of the women to carry astonishing loads. He noted that as soon as a camp was struck the women assembled tents and began preparing food while the men went hunting. Deer were readily at hand on this “[l]ovely prairie.”

July 28th they marched 2 leagues and crossed a little river. It was very hot and the women struggled with their loads [11]. A standard day’s travel for the Kansa when heavily laden might have been but six miles. They had not nearly enough horses for all to be mounted, and there is no evidence that Kansa- Osage women rode horses.⁶⁹ They now travelled west-southwest. July 29th was more of the same. They stopped mid-day to avoid the great heat, crossed two streams and a little river and camped on another little river, *Soldier Creek* [12]. This day the journalist made a rare comment on grasses; “l’herbe est fort courte sur les hauteurs des prairies, l’herbe bien grande dans les vallons et le long des ruisseaux et rivières[.]”⁷⁰ “The grass is quite short on the upland of the prairies but tall in the little valleys and along the streams and rivers;” evidence that they now entered the short or mixed grass plains from the tall-grass prairies.⁷¹ At this point they had yet to encounter a bison. July 30th, Bourgmont became ill, and this marked the end of their forward progress on this leg of the journey. Bourgmont, “being very weak and having severe pain in the kidneys” would be forced to return the following day.

On July 31, the journalist made a compendium entry. Bourgmont sent two Padouca, a woman “and a big lad of about 16 or 17 – both of whom he had bought from the Kansas for the express purpose of returning them to their tribe,” ahead to inform that group of his intended visit now delayed. These two recently purchased Padouca ‘replaced’ the two women who had died of the fever in the Kansa town. Bourgmont admonished the Kansa to protect these emissaries. The

⁶⁸ Bourgmont Journal — July 27, 1724.

⁶⁹ The Margry transcription has them make 12 leagues this day; this is clearly a textual problem as 12 leagues with women and camp gear was impossible. Bourgmont, Margry (1888): 415.

⁷⁰ Bourgmont, Margry (1888): 415.

⁷¹ Bourgmont Journal — July 29, 1724.

Kansa were now embarked upon their “summer hunt ... three or four days of travel [ahead] where the bison were plentiful.” I make this region of the hunt to be at [91], figured by their daily march distance and direction.⁷² The Padouca would be found some days travel past the hunt site. Bourgmont expected the Padouca to be in company with Spaniards. Bourgmont sent a “passport in Spanish [and] a letter for the Spanish chaplain written in Latin” along with the two freed Padouca.

The journalist made the location of the last camp to be “three leagues inland from the Kansas River and ten days travel from the nearest Padouca village.” The distance between the Kansa town and the Padouca village was twice that of the distance between Kansa town and their Missouri allies, or sixty leagues / 180 miles.⁷³ This measure helps figure the location of the Padouca. From the last camp, unfettered by the Kansa women who were now off to the bison hunt, the party made better mileage on their return to the Missouri. Even with the Kansa carrying Bourgmont on a litter, on August 1st, they made five leagues, six leagues on the 2nd and about the same on the 3rd, when they arrived at another Kansa town mid-day. This was not the same town as visited earlier but rather a long occupied site at the mouth of the Kansas River [16]. Their return progress had amounted to only some sixteen leagues or fifty miles, roughly the same distance as the outward led from the first Kansa town. On August 4th they set out by pirogue and incredibly, arrived at Fort d’Orleans the next day. This is an ‘as the crow flies’ distance of some eighty miles, likely a de facto river trip of 120 miles or so. The one-day river trip refutes any possibility that they had returned to the northernmost Kansa town, which would have entailed a “piroque” trip of some 150 miles.

The journalist made but one entry, that of September 6th during Bourgmont’s recuperation at Fort d’Orleans. He noted that the Padouca slaves in company with Sergeant Dubois had arrived at the Padouca town (El Cuartelejo) August 25, having left Point 12 on July 29; although Dubois said the distance was but ten day’s march. Dubois’ Kansa escort was terrified at meeting the Padouca, but they remained safe presumably because of the importance the Padouca placed on establishing trade relations with the French. The Padouca “chief” was enamored of the French firearms and was given a “fusil” for “a horse and a bison robe.”⁷⁴ On the

⁷² Three or four days at 3 leagues per diem, say 10 leagues or 30 miles west of Point 12.

⁷³ Bourgmont Journal — July 31, 1724.

⁷⁴ Bourgmont Journal — September 6, 1724.

strength of this sign of goodwill, the Padouca chief sent “five Padoucas” as emissaries to the Kansa town to await Bourgmont, likely the only time Padouca viewed the lower Missouri River.⁷⁵ These worthies fled the Kansa town in fear of being murdered as “the Padoucas had been betrayed more than once by the Kansas[.]” This news caused Bourgmont to speed his return, and he left Fort d’Orleans for the second time on October 2, 1724.⁷⁶

Bourgmont’s return took him five days of river travel to get to the Kansa town. From this report and their eventual leave-taking, it is clear the Bourgmont had returned to the northern Kansa town near *Independence Creek* [7]. When he arrived at the Kansa village seemingly all the previous political groundwork had to be re-created, as negotiations were not complete until October 7. These talks were no doubt complicated by the addition of the “Panimahas”, or Skiri/Skidi Pawnee to the proceedings.⁷⁷ Padouca emissaries arrived the same day. Gaillard, the French representative sent by Bourgmont to the Padouca, informed the assembly that 600 Padouca warriors and “all their families” from eight rancherías were camped four days to the west. Other groups were to join them. It seems reasonable that the Padouca population at that time was still at least 10,000.⁷⁸

The preeminent trade item for the various aboriginal groups were fusils, shot, and powder, although there was also interest in other manufactured goods. In exchange for these the Kansa offered bison products and beaver pelts. The Padouca had “many horses and blue stones [turquoise]” to trade, and made no mention of animal products,⁷⁹ this links the Padouca agrícardo with both the Spanish and French. The source of horses for the eastern groups, Skidi, Kansa, et al, is made clear in a speech by the Skidi Pawnee chief who said;

It is good that we should make peace with the Padoucas for several reasons: first, for our own tranquility; second, so that we can go on our hunts in peace; and third, in order to have horses, which will help us to carry our equipment when we go into winter

⁷⁵ Hyde (1988[1951]): 70.

⁷⁶ Bourgmont Journal — October 2, 1724. It is unlikely he would have left Fort d’Orleans any later in the year than he did because of the advancing season. That Bourgmont did set out in October while still ill shows his value for good relations with the Padouca.

⁷⁷ Bourgmont Journal — October 5, 1724. Bourgmont, Margry (1888): 429.

⁷⁸ Bourgmont Journal — October 2, 1724.

⁷⁹ Bourgmont Journal — October 5, 1724. Recall that Bourgmont on 16 July had exhorted the Kansa to secure as many horses as possible for the French.

quarters (en hyvernement), because our women and children are terribly overburdened on our return.⁸⁰

This is the most forthright evidence of the dispersal of horses for this period. The Padouca agriardo was the primary source of horses, and eastern Missouri and Mississippi groups were compelled to deal with them – either through trading or raiding – for horses. The steppe was in 1724 the primary source of horses, and the animal had not ‘naturally’ spread out along the Arkansas plains. This dynamic would not change much by the 1800s and the American era. There were never in the early historical period great numbers of available (feral or caught) horses on the eastern Plains above the Red River.

October 8 Bourgmont set out with five Padouca and Kansa, Oto, Iowa, and Missouri chiefs and escorts, making five leagues the first day, following approximately the same route as previously. On the 9th they made seven leagues to the west-southwest, and then sent on two Padouca with news of their approach. October 10 they pressed on for twelve hours making eight leagues, or twenty-four miles; these distances indicate they were all horse borne. They crossed broad prairies, saw rocky hills, stands of trees, and many deer. Large stones projected from the prairie in places.

October 11 they pressed on past their previous turnaround point, and struck the Kansas River—la Grande Rivière des Canzés—and crossed to the south [16]⁸¹ where the river runs due east. The river was three feet deep with a bottom of moving sand; they were forced to unload their horses to cross. Bourgmont was advised by “les Sauvages” that the Kansas was here “20 lieues”, sixty miles, from its mouth at the Missouri.⁸² Entering the river valley from the short grass plains above they found:

Both sides are wooded, with many deer, turkeys, some canebreaks, and innumerable bison. Our hunters killed two [bison] during our crossing.⁸³

This is their first reported sighting of bison, and it is bookended by descriptions of the short grass plains. This is also a rare argonaut mention of cane, or canebreaks, on Plains Rivers. In an excellent paper, “Razing Cane,” Mart Stewart notes that in the Deep South cane was sometimes

⁸⁰ Bourgmont Journal — October 6, 1724; Bourgmont, Margry (1888): 425.

⁸¹ Bourgmont, Margry (1888): 429.

⁸² Bourgmont, Margry (1888): 429. This point is 60 miles ‘as the crow flies’ from the Missouri. There are few places in its long run that the Kansas actually runs west-east, and this is one of them.

⁸³ Bourgmont Journal — October 11, 1724.

a valued species but that cane blooms were also associated with early historical declines in aboriginal populations.⁸⁴ Cane choked out those plant and animal species Plains aboriginal groups valued most, and the presence here of canebreaks possibly signifies the lack of regular fire maintenance indicative of population decline.

Once across they continued to the west-southwest, keeping a little river, *Mill Creek*, to their right and hills to the left. They camped on lowland prairies, surrounded by “hills with rocks on the surface and very short grass growing on them [with] clumps of trees here and there [17]; there was a “large hill” to their left.⁸⁵ This day’s observation is another iteration of the close relationship between bison and the short grass. October 12 they marched eight leagues to the southwest skirting “large bluffs on our left where there is a little river” into which many streams flow [*Mill Creek*]. This day they saw “quantités de bœufs, de vaches, des troupeaux de cerfs et de biches”—bison bulls and cows, buck and doe deer—numbering more than 200.⁸⁶ Here again, the conjunction of cow bison particularly and “L’Herbe est fort courte les hauteurs,” or very short grass on the hills [18]. They had yet to encounter the great mass of the Plains bison herd.

⁸⁴ Mart A. Stewart, "From King Cane to King Cotton: Razing Cane in the Old South," 59-79, *Environmental History* (12: 1, 2007): 71.

⁸⁵ Bourgmont Journal — October 11, 1724. The large hill was Buffalo Mound, *Paxico KS*. [Point 90]

⁸⁶ Bourgmont, Margry (1888): “12 Octobre”, 429.



Figure 6.6. Above and south of Manhattan KS, looking north towards the Kansas River Valley.

This series of photographs taken in September 2008 helps to illustrate environmental aspects of Bourgmont's route. First, he passed unremarked through what many would consider tall grass prairie, and indeed he did pass through today's *Konza Prairie*. Figure 6.6 demonstrates how tall grasses and trees typify valley bottoms with streams in this region, now as then. This photo also shows that even without burning (the photo was taken outside Konza) the hilltops support short grasses.⁸⁷ Pre-settlement when these grasslands were grazed by the bison biomass and regularly burned the separation between short and tall grass was even more dramatic. This region is now considered to be mixed-grass prairie,⁸⁸ as problematic an environmental term as one is likely to encounter. While short-grass plains and tall-grass prairie have clear definitions, most writers evade defining mixed-grass prairie.

⁸⁷ Konza Prairie is burned regularly, with specific plots being burned at intervals from one to ten years. O. J. Reichman, *Konza Prairie: A Tallgrass Natural History*, (Lawrence: University of Kansas, 1987): 7. I regard *Konza Prairie* as the best study of a specific grassland I have encountered. It is a readable and hugely interesting blend of accessible science and history complete with excellent photographs and maps.

⁸⁸ Reichman (1987): 6 ff. And, James E. Sherow, *The Grasslands of the United States: An Environmental History*, (Santa Barbara: ABC-CLIO, 2007): .



Figure 6.7. Indian Grass at Konza.⁸⁹

O. J. Reichman gives a definition of America's tallgrass prairie, writing it is both obvious and, "special because of the magnitude of Big Bluestem grass; its dominant variety, which symbolizes the tallgrass prairie."⁹⁰ The tallgrass prairie is an eastern emigrant, its "origins in the eastern and southeastern forests of North America."⁹¹ Richer soils, mellower weather, and more consistent precipitation allow tall grass to thrive east of the Arkansas Great Bend, and prohibit it growing west. But a small percentage of the Study Area was covered in tallgrass as reflected in the language of the argonauts. The tallgrass would prove to be as appealing to immigrant sod-busters as it was unappealing to bison cows. For, as Bourgmont and other argonauts demonstrated, bison cows (and therefore calves) began where the short grass began.

⁸⁹ Tall grass in the bottoms and short grass on the hilltops. The Indian grass spikes were 6 feet / 2 meters tall. Thanks to James and Bonnie Lynn Sherow for access to this site and the hospitality.

⁹⁰ Reichman (1987): 8.

⁹¹ James Sherow quoting O. J. Reichman. Sherow (2007): 3.



Figure 6.8. Mixed grass prairie, Kansas hillsides. No fences were harmed in making this photo.

A short three-league progress on 13 October showed a remarkable change, and did so in a location that is eminently mappable. They passed the head of “the little river [*Mill Creek*] on our left and passed onto the high ground where many small streams form.” Here they encountered “on all sides more than 30 herds of bison,” “de bœufs et de vaches[.]”⁹² The animals were so numerous it was “impossible to count them,” but the journalist estimated “four or five hundred at least in each herd.”⁹³ The following day they noted they were on the high ground from which “several streams and little rivers...drain into the Kansas River.”⁹⁴ Given their route and distance from the Kansas crossing, this makes them on the highland that divided the Kansas from *Neosho River* drainages, near *Dwight, KS* [19]. They were travelling along the crest of two major drainage systems. They intentionally skirted the Osage lands of which the Neosho River drainage was a component; it was one thing for Bourgmont’s “Kansa, Oto, Iowa and Missouri”

⁹² Bourgmont Journal — October 13, 1724. Bourgmont, Margry (1888): 430.

⁹³ Bourgmont Journal — October 13, 1724.

⁹⁴ Bourgmont Journal — October 14, 1724.

escort to profess friendship for the Osage, another for them to cross their territory.⁹⁵ This is further evidence of drainages forming borders between aboriginal territories.



Figure 6.9. Closeup, Kansas hillside.

October 14 they marched along the high ground to the “west quarter southwest”, covering “eight leagues in fine weather.”⁹⁶ They went through treeless “broad prairies” covered in herds of bison in great numbers “as far as they could see” from the height of land, likely twenty miles or more. They shared the same ecological and gustatory sensibilities as their Aboriginal travelling companions, and had “as many bison tongues as [they] could eat ... at every meal.”⁹⁷ Bourgmont “on horseback killed a bison [this day] with his pistol” [20]. Deer were “almost as numerous” as the bison, indicating the mix of plain and lowland brush habitats. No argonauts killed or ate deer when bison were available. They were now passing through the *Flint Hills* as

⁹⁵ Recall that the Osage had fled the Kansa town fearing the fever Bourgmont carried there. No Osage accompanied this mission, and one wonders if they had any value for a rapprochement with the Padouca.

⁹⁶ The Southern Pacific Railroad sensibly follows this same route. It is astounding, if not surprising, how often modern roads followed ancient trails.

⁹⁷ Bourgmont Journal — October 14, 1724. Slaughtering bison for a few choice pieces was commonplace for both aboriginal and euramerican travelers.

evidenced by the observation that “we found many stones on the ground and strips of exposed rock, resembling from afar tumbledown farm buildings.”⁹⁸



Figure 6.10. Flint Hills outcrop.

On October 15 they marched seven leagues to the west-southwest, crossing streams and “two little rivers,” the *Cottonwood River* and *Gypsum Creek*, camping on the latter [21]. They marched as far as two leagues without seeing a tree, and encountered the occasional prairie, meaning they travelled generally through short grass plains. Bison were becoming

⁹⁸ Bourgmont Journal — October 14, 1724.

commonplace; they found “as usual, herds of bison.”⁹⁹ On the 16th they were led astray by their unnamed guide and travelled too far south. I make their travel for the day then to consist of four leagues west-southwest, two leagues south southwest. They crossed “two small rivers and several dry stream beds,” and bison were still abundant. They realized they had strayed too far south when they encountered the Arkansas streams flowing south, *Turkey Creeks*, and knew they had strayed from the Kansas watershed, which they had been following [22]. This would have placed them again in Osage territory.

October 17th they marched two leagues north northwest to overcome the previous day’s southward drift. They regained ground drained by the Kansas or at least that height of land [23], then “marched more or less due west”¹⁰⁰ and camped on a small river, the *Little Arkansas* [24]. They found evidence of a recent Padouca campsite, and promptly set the prairies afire to notify the Padouca of their imminent arrival; they saw a respondent fire in the western distance.¹⁰¹ On October 18 they marched due west and struck a brackish river, *Little Cow Creek*, and a fresher Padouca campsite. Again they set the prairie ablaze, and were answered in kind. This site [25] was their penultimate western camp. In the afternoon they were reunited with their “two Frenchmen” travelling with 80 Padouca and their head chief. They then went three leagues west to the Padouca camp; this would be the furthest west Bourgmont travelled [26]. I make this camp to be on *Cow Creek*, just to the northeast of the *Great Bend* of the Arkansas River. There is no evidence they ranged further west and encountered the nearby *Cheyenne Bottoms*.

This was the precise site of Quivira, the Wichita/Jumano agricardo that drew argonauts from Coronado to Oñate across the plains to the *Arkansas Great Bend*. Bourgmont’s journal reveals this place of hundreds of years of Wichita presence was now the site of outlier Padouca presence. In fact Bourgmont revealed it was unoccupied by any group, but for itinerant Padouca hunting and trading camps. Perhaps most surprising is that this site of a great agricultural enterprise, a Jumano agricardo, was now devoid of any evidence of the practice of agriculture. Bourgmont observed that the Padouca encountered here had very little corn and it was carried with the group and not stored or produced at the site.

⁹⁹ Bourgmont Journal — October 15, 1724.

¹⁰⁰ Bourgmont Journal — October 16, 1724.

¹⁰¹ I believe that this was a very common tactic and as such is under-recorded in argonaut journals. Prairie fire caused by signal firing was likely a significant environmental factor on the plains.

On July 19th, when “all the Padouca chiefs, with the most influential persons of their village and tribe...about 200 of them” were assembled, Bourgmont made his pitch for peace between the Padouca and “our allies”: “les Missouris, les Osages, les Canzés, les Othos, les Panimahas”.¹⁰² Bourgmont revealed why the French were the preferred partners in Plains trade relations.

[He] ordered his trade goods unpacked at six in the morning and divided into lots of a kind: one of fusils, one of sabers, one of pickaxes, one of axes, one of gunpowder, one of balls...one of gunflints, one of wadding extractors[.]¹⁰³

in addition to knives, cloth, mirrors, bells and beads. Bourgmont situated himself and the French trade as armourers to select Plains aboriginal groups; a position the Spanish were never able or willing to take. The Padouca “head chief”, never identified by name, addressed this point:

the Spaniards [are] only 12 days’ travel from our village.¹⁰⁴ They come to visit us every spring. They bring us horses and a few knives and some awls and axes, but they are not like you, who give us a quantity of merchandise such as we have never seen before. We are unable to reciprocate for so many presents.¹⁰⁵

On July 20th the great parley continued and the Padouca provided “bison meat cooked in a pot, and some meat that had been dried in the sun, with dried plums pounded up with their pits and cooked in a pot.” At the end of the day the Padouca “brought two plates of maize they had cooked. It was all they had in their villages.”¹⁰⁶ The Padouca chief said he had agreed with the Osage, et al that Padouca “women and children” enslaved by those groups would be returned in exchange “for horses which we will give them.” This clarifies that the slaving enterprise involved only women and children, and that the Padouca had many horses. The chief said he had at his command at least 2000 warriors. Again, 10,000 seems to be a reasonable guess of the El Cuartelejo Padouca population which was contained in some twelve rancherías. That this group was able to offer horses for trade meant they had at least several thousands of horses at their disposal, including at least three thousand war ponies.¹⁰⁷

¹⁰² Bourgmont Journal — October 19, 1724; Bourgmont, Margry (1888): 434.

¹⁰³ Bourgmont Journal — October 19, 1724.

¹⁰⁴ This travel estimate is borne out by the Spanish argonauts such as Ulibarri who visited El Cuartelejo.

¹⁰⁵ Bourgmont Journal — October 19, 1724.

¹⁰⁶ Bourgmont Journal — October 20, 1724. It is surprising they had so little corn even though they were travelling.

¹⁰⁷ Many sources indicate that Plains Indian warriors reserved their favorite horse for battle and had other animals they used for transit. Three horses per warrior is a very conservative guesstimate.

On 21 October it rained all night, turning to sleet in the morning, and Bourgmont determined to return. The Padouca chief reiterated his desire for fusils, offering horses in exchange, as “We will soon have more than we do now, for after you have gone, we will go to the Spaniards to get some[.]”¹⁰⁸ He did not specify how these would be obtained. On 22 October the French began their return, marching “five leagues, on a course of east-northeast” [27]. At this camp on the sources of *Cow Creek*, the journalist made a compendium entry regarding the Padouca; this text makes a sound case for the Padouca as El Cuartelejo Apache. Recalling that Ulibarri heard of but did not see the first Comanche to cross the mountains to the plains in 1706, Bourgmont’s testimony in 1724 described the El Cuartelejo Apache at the height of their influence a mere moment before their destruction at the hands of the Comanche; when Anza attacked the Comanche in 1779 there was no trace of Apache presence on the Arkansas steppe.

The Padouca present at the parley numbered 4,300, and were representatives of the dozen or so rancherías. This “tribe...extends for over 200 leagues” from the Platte southward and some rancherías “are near the Spaniards,” presumably south of the *Canadian* since the extirpation of the Jumanos. The parley group had 140 households, with “800 warriors, more than 1,500 women and about 2,000 children.”¹⁰⁹ Some of the Padouca knew how the Spaniards “work silver mines,” and demonstrated that knowledge. The rancherías closest to the Spanish had metal tools, those further away still used “flint knives for cutting small trees” and butchering. Spanish trade had not provided a wealth of manufactured goods. The Padouca universally feared the French fusils, indicating their relative unfamiliarity with the weapons. Bourgmont noted the Padouca and Spanish were at relative peace and the two groups had a long history, meaning this group was definitely not the Comanche. Given their extensive range, Plains Apache is the best descriptive term for them, as they included groups far from El Cuartelejo among their ranks.

The Padouca lived in permanent towns, rancherías to the Spanish. They had sizeable dwellings, not tents, but “grandes cabanes.” This makes sense of the Spanish reports of ‘houses’ at El Cuartelejo. When travelling they carried tents and still used dog transport when horses were scarce or otherwise occupied. They sowed maize and “a few pumpkins”, unobserved, but grew no tobacco. They traded bison products to the Spanish in exchange for tobacco and horses.

¹⁰⁸ Bourgmont Journal — October 21, 1724.

¹⁰⁹ This discussion is from the Bourgmont Journal — October 22, 1724.

Dress for both men and women was made entirely of dressed skins, likely deerskins, and bison robes. Men wore shirts and “culottes” tucked into tall moccasins in the “Spanish manner.” Women wore “les brassieres et la jupe,” both fringed, and had robes as well. No cloth goods were reported and those offered by the French were highly valued. Manufactured goods were simply not a part of Spanish / Plains Indian trade in 1724.

The Padouca were organized around a head man who controlled the hunt, and group activities such as trade missions. The “chief” sent out bands of 50 to 100 households to the hunt. On their successful return “those who had stayed at home” set out at once.¹¹⁰ These large groups had to but travel five or six days from El Cuartelejo to reach the herds, meaning that the upper Arkansas valley was not the site of a great hunt. Since the fall hunt was for food and robes, bulls were sought as well as fat cows. The Padouca used bull hides as personal armor and also to “wrap around their horses as a protection against arrows.”¹¹¹ The hunt chief then sent out small bands of “50 to 60 mounted warriors, armed with bows and arrows” to assault the smallish herds of “300 to 400” that comprised the great herd.¹¹² The hunters ran the bison “until their tongues stuck out a foot” then shot arrows into “the fattest ones.” This practice was highly destructive of horses, and Bourgmont noted that not only were many horses killed in the hunt, but that the Padouca “never have colts, for their mares always abort on the hunt.” It is hard to say if this was a strategy designed to free the Padouca from supporting relatively useless immature horses through long winters.¹¹³ I suspect it was. Presumably the Padouca replaced these animals from raiding the Spanish herds.

After this too brief ethnological essay, the French set out again on 23 October, making an incredible 10 leagues to the east-northeast. On the 24th they found large herds but still managed to make an impressive 10 leagues across easy country travelling eastward [30]. The next day they continued through fine weather making another 10 leagues.¹¹⁴ October 27th, they struck the

¹¹⁰ Bourgmont Journal — October 22, 1724.

¹¹¹ Easy to see what a game changer firearms were.

¹¹² The Plains Apache apparently never adopted from the Spanish the long spear the Comanche would favor for hunting and fighting.

¹¹³ The Comanche loved horse flesh, some preferring it to bison meat. I found no record of Apache gustatory employment of horses.

¹¹⁴ While they had the impression they were flying along at 30 miles a day they likely averaged 20. Apart from the fact that no group sustained 30 mile travel days, it is highly unlikely they travelled much farther

“Kansas River at three in the afternoon and crossed it,”¹¹⁵ camping on the east bank [33]. Once across they headed due east for four and a half days. October 31 they camped near the Kansa town on the river junction. November 1 they reached the Missouri and “had bullboats made” to ferry the group downriver to Fort d’Orleans.¹¹⁶ After floating downstream four days in the round hide ‘boats’, Bourgmont had the *Te Deum* “sung in honor of the Padoucas,” and likely, surviving the expedition. Saint-Ange signed the document for Bourgmont, and the remaining twelve Frenchmen either signed or made their mark on the report on November 15, 1724.

Environmentally, Bourgmont is a valuable resource. First, the weather in 1724 was “fine” from July through October, with rainy periods. Frost was reported early in October, and no snow or freezing was encountered. Avoiding winter was undoubtedly a consideration in Bourgmont’s decisions to embark and return. No feral horses were reported. The Kansa and Osage had horses, but both groups were eager to acquire more. The Padouca had many times the horses as did the other groups. The Kansa were able to fit hunting parties with horses, but they travelled en masse using dog transport. When the Kansa traded horses with Bourgmont it was in terms of individual (4-6) animals and not dozens. When they travelled to the hunt in July, Bourgmont noted 5-600 warriors; if they had the Padouca standard 2-3 horses per warrior this would have meant a remuda of 2,000 animals or more. This would have occasioned comment, and I presume the Kansa had nowhere near that amount of animals in 1724. The Padouca had horses in the thousands, and this was a factor in their turning away from agriculture.

Bison were reported west of 96° on the Kansas. The first reports were of outlier bulls, then herds of bulls. The first bison cows were reported in conjunction with short grasses on hillsides, about 96°30 south of the Kansas River. Although unremarked, it is presumed that cows were found with bulls from that point westward. Bison were found in great herds just before the Arkansas Great Bend in September. The extirpation of the Jumano presence from the region had re-opened this area for bison. Likewise, Padouca sallying forth several days from El Cuartelejo to find bison was evidence that extensive aboriginal presence, particularly agricultural presence, contributed to the absence of bison from those otherwise prime grazing grounds. Both

returning than they had going out, particularly since they were spared the wandering aspect of the outward trek.

¹¹⁵ Bourgmont Journal — October 27, 1724.

¹¹⁶ Bourgmont Journal — October 27, 1724.

these areas are proven bison ranges in the absence of substantial settled aboriginal presence. Later sources surveyed fortify this impression.

Throughout Bourgmont's travels he brought some communicable affliction to those groups he encountered. The French trader took the microbes with him from Fort d'Orleans; they were ill when they set out. Described throughout as "fever", the symptoms were 'enhanced' by summer heat, then-typical hygiene of all groups, and the presence of large intermingled and close-packed groups both at the fort and in several Indian towns. The disease was not smallpox or any other sort of marking disease. Nor was it malaria, as Bourgmont had attacks of malaria before and after this journey. Frank Norall opined, after "consulting medical sources," that Bourgmont may also have been suffering from kidney problems as indicated by his reported back problems.¹¹⁷ The French group likely took some feverish epidemic such as influenza, "cholera, typhus or diphtheria", to the Kansa, Osage and Padouca. Norall incorrectly counted smallpox and cholera in the mix; cholera, an Asiatic import, had yet to enter the American system in 1724.¹¹⁸ It appears the journalist escaped this affliction as there are no gaps in the narrative. On the map above, the 'Fever' polyline represents the path of an introduce pathogen. If Bourgmont carried some communicable disease, he spread it from the Missouri to the Steppe.

The Kansa controlled the approaches to the Plains along the Kansas River as far west as 96° west longitude, roughly the eastern limit of the Study Area. Beyond this point the Padouca held control. The Skidi and other Pawnee groups were located along the Platte River, as per the De L'Isle map. The Osage were a feared presence even by their allies, and held sway below the Kansas River. Neither the Osage nor the Pawnee were encountered on the excursion to the Padouca; this was no accident. Their Kansa/Padouca guided route out and back was calculated to circumvent those territories. Watersheds served as boundaries for aboriginal territories. No other groups were a presence in the region traversed. Surprisingly, the Comanche had yet to make their presence felt on the Arkansas Plains.

The Padouca were in control of the Plains below the Platte and west of the Arkansas Great Bend in 1724. They numbered in the thousands and had many thousands of horses.

¹¹⁷ Norall(1988): 172-173, *n.* 10, 14.

¹¹⁸ 1831-32 saw the pandemic introduction of Asiatic cholera into New York City. David Dary, *Frontier Medicine: From the Atlantic to the Pacific, 1492-1941*, (New York: Alfred A. Knopf, 2008): 333. And, Ann G. Carmichael, "Cholera: Pandemic Pestilence," In *Plague, Pox, Pestilence: Disease in History*, edited by Kenneth F. Kiple, 142-147, (London: Phoenix Illustrated, 1999).

Agriculture had lost its importance to the group and been supplanted or replaced by increased bison hunting. Where once groups had corn, green corn, squash and pumpkin, now the Padouca had but a few plates of maize in October. The addition of thousands of horses to the fields surrounding the permanent rancherías made agriculture difficult or impossible. This was a great change in lifestyle compared to the Ulibarri visit fifteen years earlier. Since the Padouca had not abandoned their permanent sites, they had not yet been driven from them by the incoming Comanche. The introduction of many horses increased Padouca dependence upon the bison resource and degraded areas formerly farmed. The reference to using flint knives to cut small trees might well relate to cutting saplings for horse feed, a well-documented practice.¹¹⁹

Perhaps most surprising is the total extirpation of the Jumano from Quivira in the course of a century from Oñate's 1601 visit. Introduced diseases from the Spanish in the southwest and the French in *Missouri* logically and demonstrably had a major impact on Jumano presence. However given that the Padouca were here in strength in 1724 meant this group was at the apex of its presence in the Study Area and Escanjaque/Padouca expansion must have impacted the Jumano. Bourgmont also provides evidence for an Osage hegemony on the watershed below the Kansas River from the Missouri to the Arkansas Great Bend, terminating at that point. Undemonstrated but intuited from the texts is a Pawnee domination of the lands drained by the Smoky Hill River and the western watershed of the Kansas. We know from Ulibarri and other sources that the Padouca and Pawnee raided and warred against each other. Likely the Kansas River south shore to approximately 98° west longitude was a commons or acknowledged pass route between the Missouri and the Plains. Perhaps Quivira's demise had something to do with these political realities. If the agriculturalist and sedentary Jumano had near simultaneously faced increased aggression from the Padouca, Pawnee and Osage warfare might have done as much damage as did disease. Pekka Hämäläinen has observed that horse culture groups such as the Comanche consciously removed other groups' "gardens from the river valleys, the only spots on the grasslands where the crucial resources [grass, water, saplings] were available year-round."¹²⁰

¹¹⁹ See, for example, Pekka Hämäläinen, "The Rise and Fall of Plains Indian Horse Cultures," 833-862. *Journal of American History* (2003): 841.

¹²⁰ Pekka Hämäläinen, "The Rise and Fall of Plains Indian Horse Cultures," 833-62. *Journal of American History* (2003): 837

Regardless of which groups contributed to the Jumano disappearance, none assumed the mantle of agriculture in this place that had supported the practice for centuries. Interestingly, all three contesting groups; Osage, Pawnee, Padouca, were agricultural in their core territories. It seems unlikely, given the relatively benign weather encountered by Bourgmont, that climate change had somehow rendered this region incapable of supporting agriculture. Since no one group would be able to secure this region after 1724, I assume that it had become a bison commons after the demise of the Jumano. No argonauts from this point on will find aboriginal settlements or even camps in Quivira. Increasing euramerican influence, if not presence, through the impact of the horse and gun on the Study Area milieu had rendered that region uninhabitable. Climate was not a factor in these events; rather the Quivirans were displaced through aboriginal actions.

Figure 6.10 interprets the data from the Ulibarri (1706), Hurtado (1715), and Bourgmont (1724) argonaut expeditions.¹²¹ The north-central Study Area remained an aboriginal place in 1724, but the group make-up of the region had changed dramatically in the preceding century since Juan de Oñate's expedition to Quivira. Jumano/Wichita presence had been extirpated through the actions of expanding groups such as the Osage, Pawnee, and Padouca/Plains Apache. The Wichita had retracted south along the lower Arkansas and back into what is now *Oklahoma*. Assisting these expanding groups was the inadvertent but deadly introduction of infectious diseases through contact with argonaut groups and individuals. Not only Quivira, but the Great Plains south to the *Canadian River* had been largely depopulated by the 1780s.

¹²¹ No mappable data from Villasur (1720).

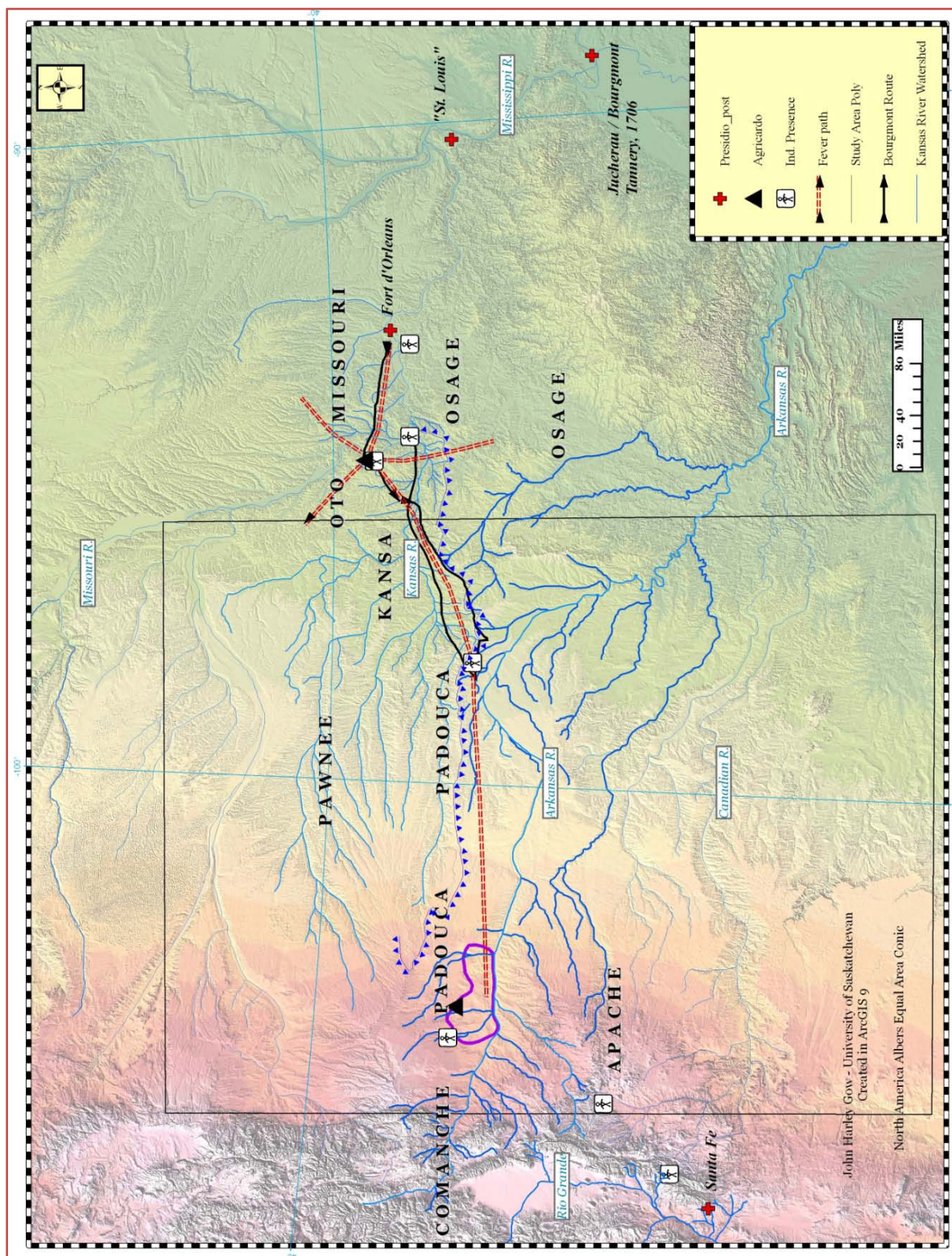


Figure 6.11. Political Study Area: 1706-1724.

In 1724 the French were rapidly expanding their influence through establishing trade forts along the riverine junctions of the Mississippi River. In stark contrast to the Spanish model of settlement, French traders made a smaller footprint in terms of imposing population in aboriginal areas, but made an outsized impact on Study Area groups. Interestingly the French forts duplicated many aspects of the *agricardo* model by incorporating agriculture, trade, and a population base intended to provide security and labor.¹²² French willingness and ability to provide fusils, firearms, to aboriginal groups was a game-changer on a level approaching the Spanish introduction of the horse. Bourgmont shows that the direct impact of Spanish trade on aboriginal lifeways was negligible but for the introduction of the horse. There was literally no evidence of material culture change because of Spanish manufactured goods. Certainly, Spanish presence greatly changed aboriginal trade and political practice in the Study Area. Plains Apache expansion in particular was assisted by or even created through, their acquisition of the horse and the resulting exponential increase in access to bison protein and products.

The great and centuries old *agricardo* at Pecos pueblo was defunct by 1724, destroyed by Spanish actions in conjunction with the impact of introduced disease. Aboriginal trade patterns now passed around this former aboriginal stronghold. Similarly the Quivira *agricardo* was defunct to the point of being unknown by Bourgmont's time. No evidence remained, but for future archaeologists, of this former great population, agriculture and trade centre. The demise of this centre must have had sweeping impacts on Plains and Mississippi aboriginal groups both. It seems likely that Osage expansion, for instance, was both enabled by and contributed to the downfall of Quivira. Bourgmont provides support for the *agricardo* as a power center on the Plains. The French argonaut was drawn through the Kansa town by its political, economic and agricultural power. To broker a Plains peace, Bourgmont needed the assistance and complicity of this powerful group.

¹²² W. J. Eccles, *The French in North America: 1500-1783*. Rev. ed., (Markam ON: Fitzhenry & Whiteside, 1998): 132.

CHAPTER 7

From Anza to Americans: Pedro Vial, 1785-1793.

The Spanish approaches to the Great Plains consisted of a few tentative, even reluctant, exploratory, or punitive exercises to 1780; they viewed the Plains as a problem rather than an opportunity. Far from comprising *states* the Spanish enterprise consisted of a precarious series of presidios with highly permeable boundaries subject to aboriginal interests and toleration. While the Southwest Intermountain was by 1780 charted, named, and ‘known’ as far north as the *Arkansas River*, Anza and his followers had bestowed but a few place names and a modicum of geographical understanding on the Plains. Bourgmont demonstrated that the French had a better understanding of the Plains than did the Spanish. The next argonaut considered knits together the narrative strands of the Spanish and the French enterprises covered to this point, and serves as a transitional figure to the American era on the Great Plains. The French New Mexican Pedro Vial had a better understanding of how the Southern Plains than did Spain and France combined. He acquired this knowledge by being a part of the aboriginal agricardo network.

Pedro Vial, née Pierre Vial, was born in Lyons, France, circa 1746. He somehow worked his way through *Canada* down the Mississippi River, likely in the 1770s, to Tejas, where he earned his keep as a gunsmith to the Taovaya,¹ being the Quivirans/Jumano, now removed from both the Arkansas and the Pecos/Rio Grande valleys.² Vial’s mere presence in the Taovaya towns was illegal in the eyes of the Spanish, and his gunsmithing exacerbated his outlaw standing, recalling Bourgmont’s similar beginnings with French officialdom in 1713. Vial undertook the exploration of the Missouri while officially wanted for treason.³ He had

¹ Vial was partially adept at writing French, and became adept at either writing in Spanish or dictating in fairly sophisticated fashion. He may have been on the Missouri River during the Revolutionary War. His knowledge of the Missouri, as displayed in maps credited to him, was either extensive or prescient.

² Taovaya and Wichita may be thought of as interchangeable terms for the same people, at least in temporal terms of this paper. The Taovaya / Wichita were of Caddoan stock, and therefore related to the Arikara as well as the Pawnee and Caddo. For an excellent thumbnail sketch see, Robert L. Brooks, “Wichitas,” in David J. Wishart, ed., *Encyclopedia of the Great Plains*, (Lincoln: University of Nebraska Press, 2004): 609-610.

³ Frank Norall, *Bourgmont, Explorer of the Missouri, 1698-1725*, (Edmonton: University of Alberta Press, 1988.): 21.

considerable standing with Taovaya and the Comanche, as his honorific “Manitou” (‘Spirit’, ‘Good luck’) indicates.⁴ Some writers insist that Vial had in fact been a Comanche captive for some years before becoming employed by the Spanish.⁵ Regardless of his mysterious past, Vial was pardoned by the Béxar (*San Antonio*)⁶ Spanish and commissioned to entreat with the Comanche for peace.⁷ Once this relationship with the Spanish was established Vial performed and journalled some half-dozen exploratory and peace-seeking expeditions on the Southern Plains over two decades representing at least three Spanish jurisdictions; Santa Fe, Béxar, and Natchitoches.

Why did the Santa Fe Spanish hire a Frenchman with a suspicious relationship with the Comanche to undertake the sensitive and politically crucial tasks of mapping the Plains and treating with its aboriginal owners? First, Vial had come from the Northeast and knew the Mississippi and Missouri Plains in a way no Spaniard ever would. Secondly the oppositional sociocultural approaches of the French and Spanish came into play as they impacted aboriginal sympathies. The Spaniards had since Coronado bullied their way onto the Plains employing smash and grab tactics at any available opportunity. When the Spanish had the upper hand *vis a vis* aboriginals, they preferred the mailed fist to an open hand. All Spanish argonauts barring de Vaca attacked and looted pueblos; purchasing or bartering for food and supplies was anathema to them. The Spanish settlement model, always ambitious in scope and undermanned in execution, relied upon enslaving locals to perform the heavy lifting. Groups so treated, sometimes repeatedly, detested the Spanish model and preferred dealing with *any* ‘other’ group than the Spanish. Additionally, the Spanish had on occasion been soundly defeated by Indian actions.

⁴ Natchitoches commandant De Blanc introduced Vial to Baron de Carondelet as “the one named Pierre Vial dit Manitou.” Letter, De Blanc to Carondelet February 22, 1796, in Noel M. Loomis and Abraham P. Nasatir, eds., *Pedro Vial and the Roads to Santa Fe*, (Norman: University of Oklahoma, 1967). Manitou: an Algonquian term. Algonquian groups included Sac, Fox, Cheyenne, and Arapaho.

⁵ Gary Clayton Anderson, *The Indian Southwest, 1580-1830: Ethnogenesis and Reinvention*, (Norman: University of Oklahoma Press, 1999). Kavanagh disagrees completely, saying Vial spoke and was an associate of the Taovaya. Kavanagh (1999 [1996]): 103. That a euramerican had to have been a captive of the Comanche to have congress with them seems to have been a convention of some Western Historians.

⁶ San Antonio de Béxar established about 1716, later famous as the *Alamo*, as a way station between the Rio Grande and eastern Texas sites including Natchitoches. Mission established in 1719 as an agricultural toehold and civilizer of the Apache. A. Ray Stephens, *Texas: A Historical Atlas* (Norman: University of Oklahoma Press, 2010): 52.

⁷ Thomas W. Kavanagh, *The Comanches: A History, 1706-1875* (Lincoln: Bison Books, 1999[1996]): 96.

The French operated more along the lines of sensible businessmen, at least on the Southern Plains. French traders, the common interface between plains Indians and French governance, had neither the means nor the desire to subdue the Osage, Taovaya or Comanche, who provided valuable fur, hides, slaves, and foodstuffs in exchange for trade goods. The French also were willing to trade firearms for furs, and this was something the Spanish were both unwilling and unable to do. Even when the Spanish did try to buy Comanche favor, they did so with trinkets. As a Frenchman and adopted Taovaya, Vial had access to the Plains no Spaniard could aspire to.

Vial's records form a formidable introduction to the late 18th Century Southern Great Plains. Consisting of two important maps in his own hand and journals detailing five expeditions from 1785 to 1793, he was a unique observer and journalist. Situated somewhere between Cabeza de Vaca and Coronado in terms of relative agency, having much more autonomy than de Vaca but the constraints of aboriginal interests and very specific terms of employment, Vial presented a hybridized record to his employers. With his unique access to the region and its peoples Vial was a successful peace-maker, a brilliant map-maker, and an unfortunately woeful journalist. Castigated for his lack of detail, Vial seems to have done everything asked of him while supplying the least amount of detail possible. Even so, the Vial records offer an unparalleled textual record of environmental impressions and aboriginal–euramerican relations of the southern third of this Study Area, circa 1785-1795 (Fig. 7.1). This chapter represents the first attempt at bringing the existent Vial diaries together and discussing them as an environmental record.

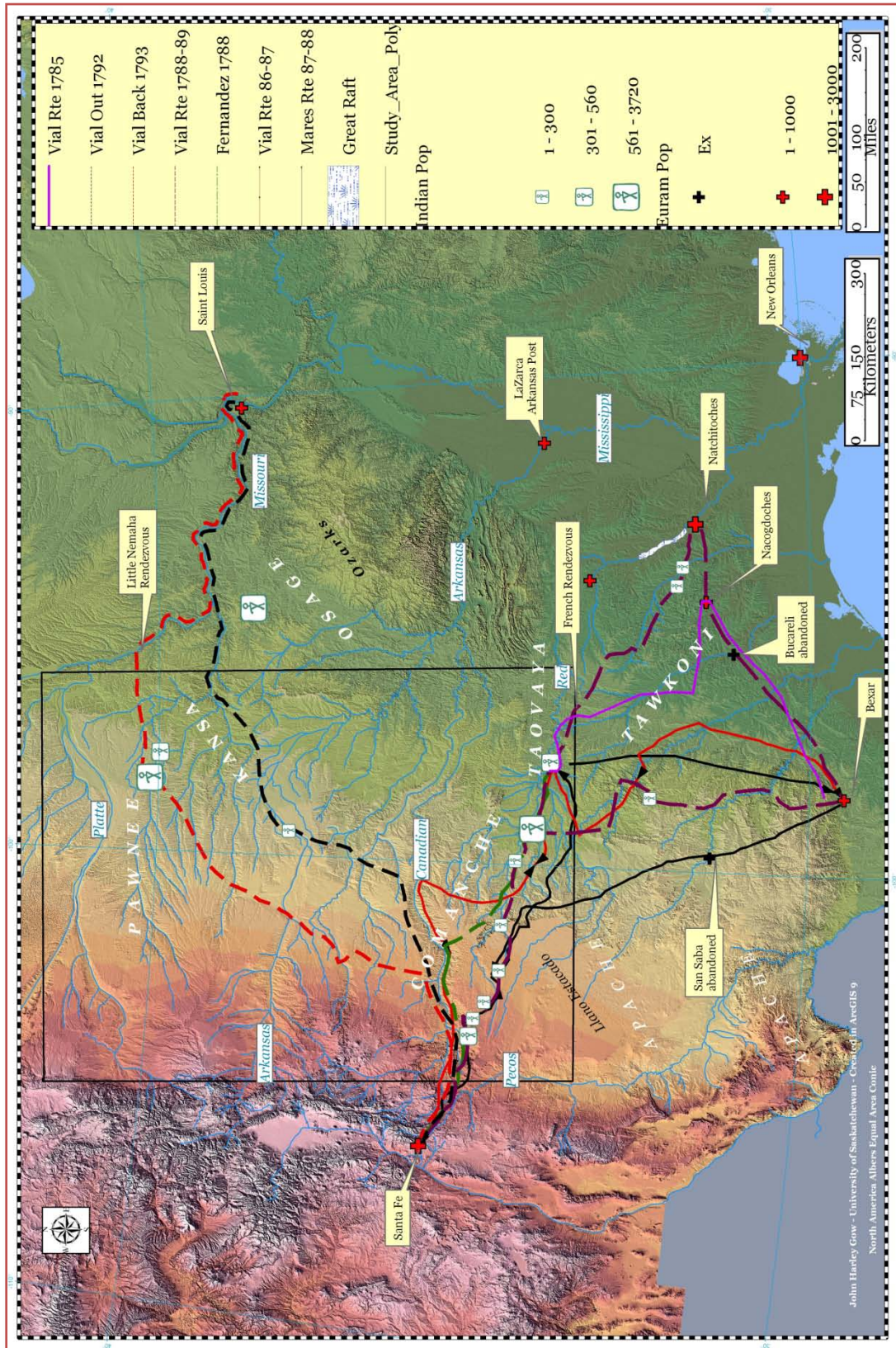


Figure 7.1. Pedro Vial's West. Routes and Encounters.

Reading and mapping Vial in the original texts affords numerous challenges. Spanish texts were analyzed when possible to do so. Vial worked for three different Spanish entities, each of which had its own data stream and archives. Santa Fe documents remained there or were sent to Mexico City. Nacogdoches and Natchitoches documents went to the Havana, Cuba archives and thence back to Spain. Béxar documents followed both paths, dependent on the ever-changing colonial organization, which was in continual flux. Elizabeth John spent decades tracking original Vial sources, from Santa Fe, NM, Austin TX, through Mexico City, Havana and the various Spanish archives. While operating primarily from the standard translations, I have been able to check some records against contemporary copied Spanish language reports – usually the only existing records. Vital to this enterprise, and courtesy of Elizabeth A. H. John, is the compendium *La España Ilustrada* by Amando Represa. Represa transcribed and collected the major Vial journals along with several key maps, here beautifully reproduced in color.⁸

This chapter presents a narrative of Vial's exploits and his socio-environmental impressions. Vial's travels saw him occasionally travelling the same 'roads' more than once; indeed he followed the same track Pecos to Santa Fe a dozen times. Never a loquacious observer, familiarity caused him to make fewer observations. Since he had lived with the Taovaya, it was not a novel experience for him to visit them. However, he approached the Taovaya towns several times from several directions and helps situate it environmentally and geographically. Since he was making records for Spanish officialdom he is a good source for historical data such as Comanche populations and organization. As a veteran plainsman, he was understandably but unfortunately a fitful recorder of environmental data. Almost nothing apparently—including being tortured by the Kansa—was unusual to Vial. Geographically, he was an astute and capable mapmaker and acquired the best working knowledge of the Great Plains of any euramerican. As a functional member of the Taovaya agricardo, Vial also contributes a deal of knowledge, usually unconsciously, of how the aboriginal agricardo system worked in the two decades before the American era began. Vial's body of knowledge is presented chronologically as it was recorded in the journals, or disseminated as per his maps.

⁸ Armando Represa, *La España ilustrada en el Lejano Oeste (Viajes y exploraciones por las provincias y territorios hispánicos de Norteamérica en el siglo xviii)*, (Valladolid, SP: Junta de Castilla y León, Consejería de Cultura y Bienestar Social, 1990).

Pedro Vial: 1785.

In 1784 Vial was either enticed or threatened into meeting Béxar *gobernador* Domingo Cabello [also, Cebello] to discuss a peace mission to the Comanches, then engaged in raiding Tejas settlers and missions.⁹ Cabello suggested that a Vial-led party of Taovaya intermediaries could approach the Comanche and convince them to adopt peace with the Béxar Spanish.¹⁰ Vial agreed and the end results were both a short-term peace of sorts, and a fascinating journal of Vial's efforts that Elizabeth John has called "an ethnohistorical treasure."¹¹ Unfortunately this was not an exploring expedition and its format allows for only a terse GIS route mapping. However, the journal does supply a wealth of knowledge on the Comanche and Taovaya/Wichita as well as some limited but key environmental reportage. Throughout this section the John-Benavides translation was followed,¹² and compared to the Represa Spanish transcription.¹³ Vial's employment marked the beginnings of his becoming a major, if long-overlooked, voice in the recording of the Southern Great Plains environmental milieu circa 1785-1796.

The Vial 'story' begins with a captive narrative: Francisco Xavier Chaves (Cháves, Chavez, etc.) was a Santa Fe Hispanic boy captured by Comanche in 1770 while herding his family's flocks.¹⁴ He was sold or traded to the Taovaya after his Comanche adoptive mother died, and was raised as a Taovaya, including receiving the distinctive eyelid tattoo scars. Chaves escaped or left Taovaya raiders and in July 1784 "presented himself" to Governor Cabello at Béxar. Speaking Taovaya and Spanish, Chaves was employed at Béxar as an interpreter. In the autumn of that year, Pedro Vial appeared at Santa Fe and established a residence he would maintain until his death in 1814. In early 1785, Cabello was pressured to establish a peace with the Comanche, and he asked Vial and Chaves if they would undertake "a peace overture into the Comanchería."¹⁵ The two worthies accepted his offer.

⁹ Elizabeth A.H. John, editor., "Inside the Comanchería, 1785: The Diary of Pedro Vial and Francisco Xavier Chaves," Translated by Adán Benavides Jr. *Southwestern Historical Quarterly* (98: 1, 1994): 26-56.

¹⁰ In the convoluted politics of the 1780s Southern Study Area there were at least three Spanish 'states' and *perhaps* three main Comanche groups. The Yamparica Comanche were at symbiotic peace with the Santa Fe Spanish and at war with the Bexar and Nacogdoches Spanish.

¹¹ John (1994): 27.

¹² Vial, 1785, in John (1994).

¹³ Vial, 1785, in Represa (1990).

¹⁴ The Chaves/Chavez family perseveres in New Mexico. See John (1994): 28.

¹⁵ John (1994): 29.

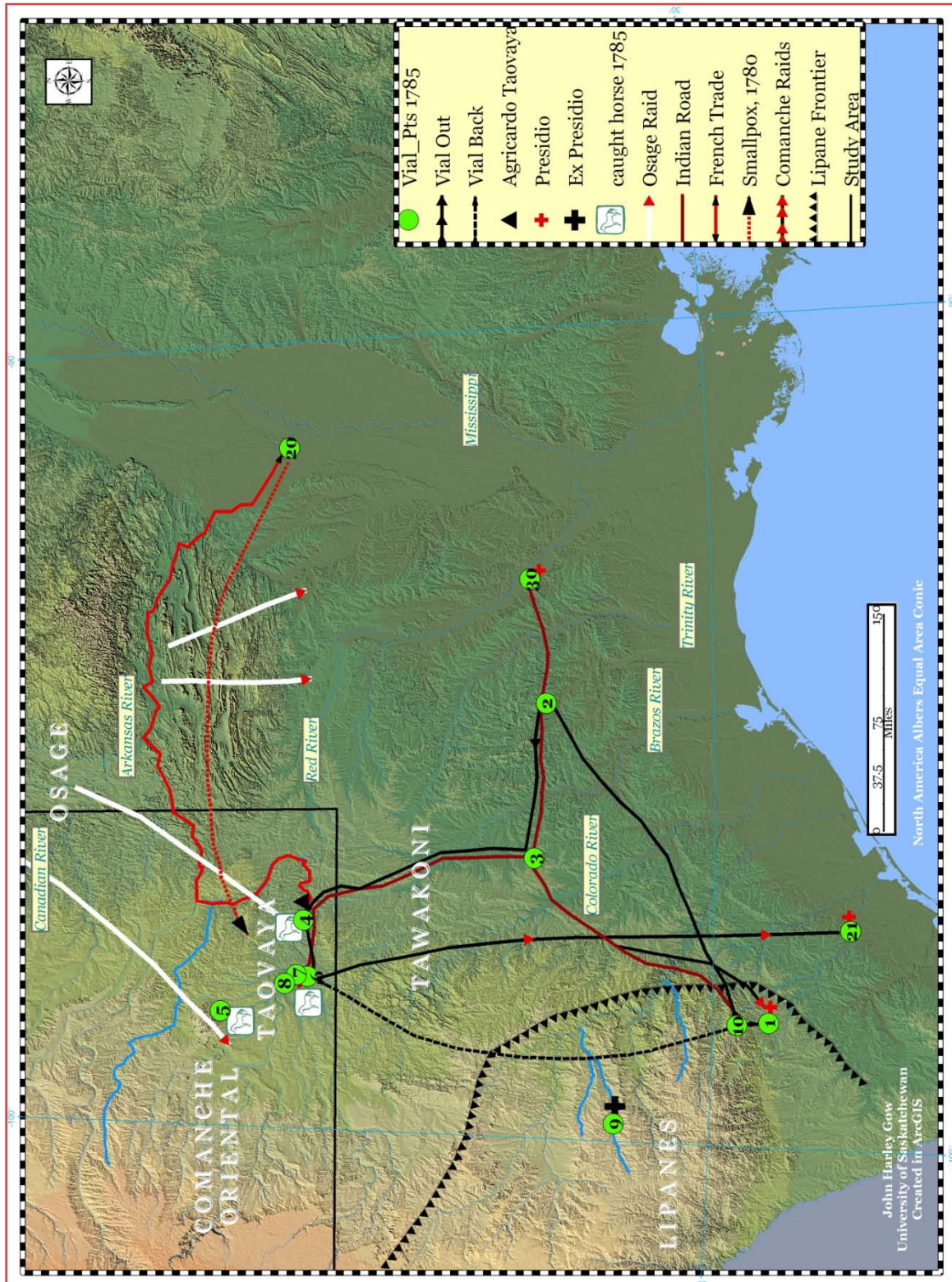


Figure 7.2. Vial Route and Data 1785.

The Taovaya, then at Béxar [**Point 1**] in some numbers, gathered in Nacogdoches every June to accept their annual ‘gifts’ from the Spanish. Vial and Chavez went with them to Nacogdoches, and thence to the Taovaya towns carrying gifts for the Comanche, following a trail both were familiar with. We can connect with their trail, most of it south of the Study Area, only at a few points; Béxar, Nacogdoches [**2**], and several points of indigenous import. Leaving Nacogdoches on July 22, 1785 they reached on the 26th a point “which they (likely, Tawakoni and Taovaya) call La Tierrablanca¹⁶ [**3**], where the road divides”; north to the Taovaya towns, west to the Tawakoni¹⁷ towns [**Indian Road**]. From here they turned north and struck the Taovaya towns on August 6th [**4**].¹⁸ Here, most of Vial’s attention was spent on arranging a trip to the rancherías of the Comanches. An extended stay here was warranted because of the necessities of negotiating with the Comanche and “due to the exhaustion” of their horses.¹⁹ “Capitán Guersec de los Taguayaces (Taovaya) y al Capitán Eschas, de los Guachita (Wichita)”²⁰ were the intermediaries Vial treated with. Vial’s familiarity with the Taovaya town, later identified as Quich, kept him from describing it. However Vial 1785 identifies Quich as an important crossroads on the *Red River*, and later Vial visits reveal the place was a major agricardo. Quich likely dated back to Coronado’s transit (1541), and earlier.

While in the Taovaya towns, an emissary went north to “a place they call La Grand Piedra”; *pia toyah* or *Piraoya* in Comanche.²¹ At Piraoya [**5**], was a Comanche war-party

¹⁶ “[U]n paraje que le llaman La Tierrablanca[.]” Vial, Pedro, and Francisco Xavier Chavez. “1785. 17 de junio a 25 de septiembre. Diario de Pedro Vial y Francisco Xavier Chavez, de su gestión como emisarios del Gobernador de Texas a la nación Comanche para tratar del establecimiento de un entrado de paz, seguido de una “Descripción de la Nación Cumanche.” [Transcription by Amando Represa]. Archivo General del Simancas. Guerra Moderna. Leg 7.031, macito 4, exp.1. In, Amando Represa, *La España ilustrada en el Lejano Oeste*. (Valladolid, SP: Junta de Castilla y León, Consejería de Cultura y Bienestar Social, 1990): 14.

¹⁷ Tawakoni: a sub-group of the Taovaya/Wichita confederacy that buffered the Taovaya from the Tonkawa to the south.

¹⁸ This site was figured below from later Vial journals giving much more precise geographical information.

¹⁹ Vial, 1785, in John (1994): 34.

²⁰ Vial, 1785, in Represa (1990): 14.

²¹ The specific mountain, [Mt. Scott, OK] as opposed to generic big mountains/rocks, may have meant “mother mountain” in Comanche – certainly the site was central to the Comanche homeland. Pia is ‘mother’ and ‘toyábi’ is ‘hill/mountain’, according to Manuel Garcia Rejon, *Comanche Vocabulary*, (Austin: University of Austin Press, 1995[1866]).

“looking for the Guazas [Osage] because they had stolen part of a horse herd.”²² It was through this party that Vial would get his necessary invitation to visit the main Comanche *ranchería*.



Figure 7.3. Piraoya. Photograph, Elroid Funglebuht, “Looking southeast from Mt. Scott,” (34° 44' 37.68"N x 98° 31' 52.56"W) Google Earth (March 3, 2010): Panoramio <<http://www.panoramio.com/photo/1136>>.

On August 20th, having “provided many gifts to the Cumanche,” the party headed west, reaching the “river *they* called the Mermellón (Watermelon)” on August 26th.²³ I make this out to be the *Wichita River*;²⁴ [6] the ‘border’ between the *Osage High Plains* and the *Western Cross*

²² Vial, 1785, in John (1994): 35.

²³ Vial, 1785, in John (1994): 35. Emphasis mine: if “they”, meant Taovaya and Wichita naming this would be an important indigenous naming. The Spanish text reads “un río que llaman el Mermellón.”

²⁴ John, Loomis and Nasatir, and others make this out to be the Little Wichita. The Wichita River better meets the description of being on a great level plain, and also accords with the distance travelled from the Taovaya towns. The texts suggest the Little Wichita was the sometime location of the townsites.

Timbers.²⁵ Here at the *Little Wichita*, they were advised their visit must be announced, so they proceeded “con alguna lentitud,”²⁶ and on the 30th they were met by an advance party of Comanche who approved the visit.

August 31st they found a great “*ranchería* ... in a very open plain ... the first *ranchería* of the Cumanches [7].” Vial meant this was the premier or ‘capitol city’ of the Comanche, not merely the first *ranchería* encountered.²⁷ These Comanche comprised the Comanches Orientales or Cuchanec Comanche. 200 fighters rode out to meet them, firing the “few guns they had.” The Comanche did not embrace firearms before 1820.²⁸ Vial said they were greeted at a “una gran tienda hecha de pieles curtidas de civola”, or, a huge tent of bison hides. They were fed “mucha carne de civola ye venado, con varias frutas y papas...con tanta abundncia,”²⁹ or bison and deer, fruit and potatoes in great abundance, overthrowing the notion that Comanches ate naught but bison. There were so many people in the Comanche capitol that it was impossible to enumerate them.³⁰ Obviously this *ranchería* was very favorably situated environmentally.

“From the 1st day of September until the 8th” Comanche chieftains gathered” to treat with Vial. Camisa de Hierro, likely Ecueraçapa, and Cabeza Rapada³¹ were Comanche *grandes*

²⁵ The Taovaya towns and the First Comanche *ranchería* took advantage of multiple biomes. That the 1st *ranchería* was situated on the Plains is clear from the text. This also helps make the case for Mermellón being the Little Wichita. All later journals make clear that on leaving the Taovaya towns east, travelers were plunged into woods.

²⁶ Vial, 1785, in Represa (1990): 15. “With some slow’.

²⁷ Vial, 1785, in John (1994): 36. The Spanish text has it, “la 1.a Ranchería de su Nacion,” meaning ‘first city of the Comanche’. Vial, 1785, in Represa (1990): 14.

²⁸ Later argonauts show the Comanche fighters had perhaps one firearm per ten fighters in the early 1800s. Given the proven availability in firearms then and the great Comanche wealth in horses, their ‘lack’ of the weapon demonstrated strategy as opposed to deprivation. The Comanche were the least dependent of all Plains Indian groups.

²⁹ Vial, 1785, in Represa (1990): 16. Papas/potatoes possibly yampa root, or some other starchy tuber. Rejón said that toroponí is Comanche for potato, but there were regional differences in the starchy tubers available to the people, whose territory stretched from South Park in the Rocky Mountains to the Texas Piney Woods. Manuel García Rejón, *Comanche Vocabulary*. Translated by Daniel J. Gelo, (Austin: University of Austin Press, 1995[1866]). One local possibility was the starchy root of the *Krigia* Dandelion or “potato dwarf dandelion” favored by Fort Sill Apache. It has a round tuberous root and grows along “moist, shaded places along creek banks.” Julia A. Jordan, *Plains Apache Ethnobotany*. (Norman: University of Oklahoma Press, 2008): 86-7.

³⁰ “[N]o es posible numerarla[.]”

³¹ See John (1994): n28-29, p.37. Ecueraçapa discussed below. Cabeza Rapada was distinguishable by his hair-style which was shaved on one side of his head, and dragged on the ground on the other. Some Comanche men worked their wives’ hair into their own as hair extensions. Possibly included hair from scalps, although some groups abhorred not the act of scalping so much as the physical scalp.

Capitanes, attended by several *capitanes chiquitos*. After the initial presentation of presents by the Spanish, the first point of business raised was the issue of transmittable disease. As Vial wrote:

They asked us if we had brought some illness that would bring death to their nation, since smallpox had struck them as a result of some Frenchmen having entered their *rancherías* from LaZarca. Two-thirds of them had died from which followed the total destruction of their nation.³²

This short passage establishes the presence and source of French traders at the Taovaya towns. LaZarca was *Arkansas Post* [20] on the junction of the Mississippi and Arkansas Rivers, established by Henri de Tonti in 1682. The polyline **French Trade** suggests a possible canoe trade route used by the French to reach the Taovaya towns, and the trade of the Southwest. Laden canoes returned to LaZarca following a 550 mile (1150 km) riverine route that was ninety per cent downriver and that necessitated but one short portage between the *Wichita* and *Canadian* Rivers. Firearms were an important part of this trade as the Taovaya exchanged horses, mules, and slaves for “cargoes of fusils”³³ as early as 1766. Some of these weapons would have been traded on the the Comanche and other allied groups, but the Taovaya armed themselves first.

Most importantly however is the issue of disease. Vial wrote that the French traders had brought “el mal de las viruelas,” ‘the evil of smallpox’, to the Comanche.³⁴ *Viruelas* then meant pock-marked and most surely signified smallpox; this moves up the first known smallpox among the Comanche by some decades.³⁵ This is a remarkable bit of knowledge from Vial who nowhere else in his journals was as forthright in identifying a malady. Knowing that Vial here identified smallpox also makes clear that his later reportage of illness was not smallpox. Vial struck the Taovaya towns on August 6th and then spent an anxious month waiting to be escorted to the nearby “first *ranchería* of the Cumanches.” Vial’s wait may have been a Comanche imposed quarantine on possibly infectious strangers. This Comanche *ranchería* was fairly static in location, and the wait was not caused by Comanche travelling to the meeting. Knowing that the Comanche were remarkably successful in both avoiding and recovering from epidemics that

³² Vial, 1785, in John (1994): 37-8.

³³ Pedro Sánchez to Rábago y Terán, January 26, 1766. Quoted in Anderson (1999): 231.

³⁴ Vial, 1785, in Represa (1990): 17.

³⁵ For instance, see Ernest Wallace and E. Adamson Hoebel, *The Comanches: Lords of the South Plains*, (Norman OK: Red River Books, 1986[1952]): 149.

destroyed other groups³⁶ helps lend credence to this interpretation of Comanche strategies regarding communicable disease.

Once the assembled Comanche accepted that Vial and Chaves' party was disease free, Vial began his long speech arguing for peace. This paper concentrates on impressions relating to the environmental Southern Plains and some aboriginal organizational points. Vial noted that all 11 or 12 Comanche rancherías composing the Comanche Oriental³⁷ were present at the meet. He estimated that 700 Comanche Oriental fighters were present, attended by "una infinidad" of children, women and young men; best guess of Cuchanec population in 1785 from Vial's observations is some 5,000 persons.³⁸ After smoking, Vial, speaking in "Tovoayaz," introduced Chaves as a former captive of the Comanche ("vuestro cautivo"). He then reacquainted himself as one who had come to the Comanche from the "rio de La Zarca ... con algunas mercancías"; Vial had been a French trader at some previous time. He then told a long story of how the Béxar Spanish Capitán Grande desired peace, somewhat glossing intramural violence and atrocities in the process, and closed "having told them whatever seemed convenient to the performance of our commission."³⁹

Guersec, the Taovaya Capitán, then rose and gave a stirring account of how the Béxar Spanish were honest and reliable and favored "los Indios" who kept the peace, by bestowing "fusiles, pólvora, balas, ollas, hachas, azdones, cuchillos [rifles, powder, shot, pots, axes, hoes, knives], etc " on their allies.⁴⁰ Further, they warred against the Lipan Apache, mortal enemies of both Comanche and Taovaya. Guersec brought the crowd to its feet by saying the Taovaya were better to ally with the Béxar Spanish than the Comanche. Two days of parlay followed, resulting in the Comanche accepting peace with the Béxar Spanish. This accord would pave the way for Vial's future exploratory and political efforts on the Southern Plains, as he would now be known

³⁶ Pekka Hämäläinen, *The Comanche Empire*, (New Haven: Yale University Press, 2008): 346-8.

³⁷ Vial, 1785, in Represa (1990): 17. "todos de las 11 ó 12 Rancherías de que se compone la Cumanchería oriental."

³⁸ Given 700 citizen-fighters, another 700 boys and older men, and 2,000 girls and women, I estimate the Cuchanec population present at the 1785 meet at some 3,500. The 1789 Vial map shows the first ranchería to comprise some "200 Casas", with a smaller ranchería located within some 20 miles. 3,500 seems a reasonable to conservative guess at the population of these two combined, and Vial reported 11-12 Comanche Oriental divisions/ rancherías. Total population for the Cuchanec might then have been some 5,000.

³⁹ Vial, 1785, in Represa (1990):20 – 21.

⁴⁰ Nowhere in the Vial sources is there any evidence that the Spanish ever directly traded firearms to the Comanche or the Taovaya.

to the Comanche Oriental. Camisa de Hierro rose to say the Spanish would no longer see Comanche footprints around Béxar, although regrettably two large Comanche parties were at that moment liberating “la caballada [horse-herds] de San Antonio y de la Bahiá,” [21, polyline **Horse Raid**].⁴¹

This agreement may well have paved the way for a more extensive peace between the Comanche and Spanish. Santa Fe Governor Anza and Ecueraacapa signed a peace treaty February 28, 1786 that ushered in a new era on the Plains. The antipathy between these groups had kept Spanish traders and hunters in the intermountain but the treaty opened the way for more exchange, although unauthorized trade would be illegal until 1796.⁴² Gradually New Mexicans of all ethnicities including genízaros⁴³ began to trek to the bison plains to hunt and trade with the Comanche. Josiah Gregg would either coin or popularize the term ‘Comanchero’ in 1843 to describe them.⁴⁴ In New Mexico these were called ciboleros, of buffalo hunters.⁴⁵ Much is made of the Comancheros’ place in the destruction of the bison, and there is no question that through the 1860s they had a major role in destroying the Southern herd.⁴⁶ Prior to 1820 it is difficult to see them as being a major force in that regard.

The last negotiation involved Comanche captives; one Miguel Menchaca captured before 1783, and a boy, José Solís, captured in 1781.⁴⁷ Menchaca had apparently ‘gone Comanche’ and been seen raiding Spanish horses at Béxar “dressed as an Indian”; he was wanted as a criminal by the Béxar Spanish.⁴⁸ The Cuchanec replied he had been killed during a raid in which the Spanish had killed “muchos Cumanches.” José Solís had been adopted by a Cuchanec Capitán living with the Yamparica who loved the boy, but returned him to Béxar. These individuals’ stories point out some of the perils of hybridity and ethnicity on the Southern Plains. Given that both Chaves and Vial had been captive as well, it is clear that these Southern Plains Indians circa 1780s enthusiastically adopted young and/or skilled males. Chaves and Vial exemplify that

⁴¹ Vial, 1785, in Represa (1990):20. This was an 800 mile round trip to steal horses. La Bahiá del Espiritu Santo, a Spanish mission established 1749 on the site of Fort St. Louis (1721); later, Goliad TX

⁴² Kenner (1969): 54, 78. Morris (2003[1997]): 161.

⁴³ In New Mexico’s complicated genetic stew genízaros were Indians ‘adopted’ into Hispanic homes.

⁴⁴ Kenner (1969): 78.

⁴⁵ Josiah Gregg, *Commerce of the Prairies*, Ed. Max Moorhead. (London: Holborn Publishing Company, 1954[1844]): 59.

⁴⁶ Kenner (1969): 180ff.

⁴⁷ Vial, 1785, in Represa (1990):24.

⁴⁸ John (1994): n 41, at 47.

individuals could leave or escape this adoption, while Solís and Menchaca indicate the exact opposite.⁴⁹ Additionally, Vial tried to locate and ransom an A (Skidi Pawnee) individual “who might be captive among the said Comanches.”⁵⁰ Vial was told that only the Yamparica would take and hold Aas and Utes, who were enemies as the Lipan and Apache were to the Cuchanec. Vial and Chaves were “muy desconsolados” at not being able to accomplish any of these negotiations; the Spanish could compel neither the Comanche nor the Taovaya to do anything within their own territory.

On September 14, 1785 the Comanche returned Vial’s “well-treated horses and mules,” and the group began its return to Béxar. On the 17th they re-reached the Mermelon, and turned south with three Comanche *capitanes* along with their wives. Mermelon is watermelon in Spanish.⁵¹ That it joined the river flowing to the Taovaya agricultural towns where melons were grown may be what inspired the name, later changed to *Wichita* to acknowledge the people who lived at its mouth.⁵² Alternately, perhaps Vial had in mind the indigenous plant *Cucurbita foetidissima*, common to Southwest river bottoms (Figure 7.11).

⁴⁹ John wrote that the return of the captives was up to the owner/ adoptive father who could not be compelled. Elsewhere in the Vial journal it is clear that Comanche Capitáns could indeed force individuals to return stolen property for the benefit of the larger group. It would seem that Comanche individuals, or citizen-fighters at least, had a tremendous amount of agency over decisions; except when those decisions directly affected the Comanche.

⁵⁰ Vial, 1785, in John (1994): 47. The A, or Aas are the Skidi Pawnee, or Panis Mahas.

⁵¹ Mermelon does not appear in the dictionaries, but it is listed as one of the exports from the Indies back to Spain in, Clarence Henry Haring, *Trade and Navigation between Spain and the Indies*, (Cambridge: Harvard University Press, 1918): xii. Listed with other treasures, including silver of course, but also: tobacco, chocolate, cochinilla, açúcar.

⁵² There is a tremendous debate about the origins of melons and other food plants of the aboriginal Southwest. Many writers assume that familiars such as watermelon had to have been imported from Europe and Africa. At some level given considerations such as the observed spread of known introductions this question reveals a built in bias towards aboriginal agriculture. How precisely did watermelons spread from Africa to Oklahoma by 1786; in the backpacks of French Traders? It is however most likely that melons were originally developed by African agriculturalists and spread to the Americas by floating across the Atlantic, arriving on the shores of Caribbean islands. It still would have taken aboriginal agriculturalists and traders to get these plants to Oklahoma.

For an introduction to this debate, see D.S. Decker Walters, et al., “The origin and genetic affinities of wild populations of melon (*Cucumis melo*, *Cucurbitaceae*) in North America,” *Plant Systematics and Evolution* (233: 3-4, 2002): 183-197. These authors argue for indigenous cultivars. Also see Kenneth F. Kiple. *A Movable Feast: Ten Millennia of Food Globalization*, (Cambridge: Cambridge University Press, 2007): 58.



Figure 7.4. *Cucurbita foetidissima*.⁵³

Their route south was through “rugged hills and woods” that “unspeakably maltreated” their animals;⁵⁴ they were forced to abandon six horses and mules en route. Both the later text and the topographical map show easier routes that could have been followed, such as through “the abandoned presidio of San Saba” [9].⁵⁵ However, on the advisement of the Comanche they

⁵³ Photograph, the author. Arkansas River valley at Great Gorge, October 2009. This indigenous member of the melon family is known as Buffalo gourd. Despite its funky aroma and taste the flesh is a source of starch and its seeds are high in useable oils and proteins. They prefer a drier climate and thrive in disturbed soil. Highly valued by Southwest aboriginals for medicinal purposes including relief from pain, swelling, sores and ulcers. Danya Drollinger, and Claudia Rodriguez, *Medical Plants of the Southwest* <http://medplant.nmsu.edu/buffalo.shtml>, accessed 18 February, 2010.

⁵⁴ Vial, 1785, in Represa (1990):25.

⁵⁵ San Saba took its name from the Spanish mission which was destroyed by Comanche military action in 1758. Some 2,000 Comanche and Taovaya allies were chased to the Taovaya towns by a pursuing Spanish army of some 600 where the Spanish suffered a major defeat. Herbert Bolton reckoned the Comanche fought with French-supplied arms as they showed the French flag. Herbert Bolton, *Texas in the Middle Eighteenth Century: Studies in Spanish Colonial history and Administration*. (New York: Russell & Russell, 1962): 87ff. The Mission site was discovered in 1993 by Dr. Grant, Associate Professor of Anthropology at Texas Tech University. There exists in Mexico City a fantastic near-

took this “rugged [route] through which they usually retreat when they cause some hostility.”⁵⁶ This was predicated on avoiding “alguna partida de Lipanes,” or Apache fighters. The Comanche chose this route because they were few in number, had their wives with them, and were escorting a valuable ally to Béxar.

On the 28th of September they struck “una cañada ... del Civola,” or Bison gulch [10], where they hid in live oak (encinares) thickets all night “not to be seen by the Lipanes.”⁵⁷ This corresponds to *Cibolo Creek*, some 25 miles (8 leagues) miles north of Béxar presidio. One of Vial’s few environmental observations was the live oak thickets extending from *Cibolo Creek* to the presidio. The Lipanes exerted virtual control over the region west and north of Béxar in 1785 [Polyline: **Lipane frontier**]; the Lipanes were not found east of Béxar. Vial’s 14-day transit is by weeks or even months the fastest from Béxar to Quich surveyed, likely due to the Comanche’s haste to treat with the Béxar Spanish and head off any repercussions for the August raids. Hence, the “bee-line” course through very rough country.

These observations conclude the 1785 journal but for the remarkable summation, *Descripción de la Nación Cumanche* appended at Béxar, summarized, and analyzed here.⁵⁸ The Cuchanec Comanche or los Cumanches Orientales, had in 1785 two Capitanes; Cabeza Rapada and Camisa de Hierro, and ten Capitanes Chiquitos, making a dozen semi-independent groups or rancherías. The Comanche had no fixed townsites because of their many horses and the need for pasturage. That and their need for many bison and deer⁵⁹ for food, clothing, and housing, meant they required much water and access to pasturage and prairie-woodlands ecotones. That they had access to fresh meat year-round explains why they had no word for pemmican.⁶⁰ Given their large caught horse herds, the smaller rancherías of Capitanes Chiquitos were seasonally more viable than larger agglomerations. Even the smaller rancherías had to move regularly as local

contemporary mural of the sacking of the mission. University of Texas at Austin; Texas Beyond History Online. “Mission San Sabá,” <http://www.texasbeyondhistory.net/sansaba/index.html>. Accessed 27 September, 2010.

⁵⁶ Vial, in John (1994): 51. Giving Vial this insider information about their raiding routes indicates they were serious about the rapprochement with the Bexar Spanish.

⁵⁷ Vial, in John (1994): 51.

⁵⁸ For the English text, John (1994): 49-52; for the Spanish text, Vial, 1785, in Represa (1990): 26-28.

⁵⁹ Textually at least, Vial and the Spaniards appeared not to have differentiated between deer, elk and antelope.

⁶⁰ “There was no pemmican,” said informant Herman Asenap to Waldo Wedel. Thomas W. Kavanagh, *Comanche Ethnography: Field Notes of E. Adamson Hoebel, Waldo R. Wedel, Gustav G. Carlson, and Robert H. Lowie*, (Lincoln: University of Nebraska Press, 2008): 37. Also, Rejón (1995[1886]).

pasturage and firewood was consumed. Vial estimated the Cuchanec at 2,000 citizen fighters, making a population of at least 10,000. This was remarkable given that they reported two-thirds of their population had been extirpated by smallpox within the previous half-decade.

The Cuchanec were allied with the Taovaya and Wichita, and friendly with the Tawakoni and other related groups. The Comanche Oriental had as great enemies “los Apaches, Lipanes y los Guazes (Osage),” who stole many horses from them. The Oriental name was bestowed by the Santa Fe Spanish, and stemmed from their situation to the east of that presidio. The Taovaya were trade intermediaries for the Comanche, supplying “some guns ... and ammunition through their barter,”⁶¹ linking the Comanche to French traders out of LaZarca through the Taovaya towns’ agüicardo. The Cuchanec also obtained arms from the Yamparica, who in turn obtained them through trade with “las naciones nombradas Canses, Guahe y Guitaborates,” (Kansas, likely Iowa, and Kiowa).⁶² This links the Cuchanec through the Yamparica to the French trade:

[The Kansas, et al] are located in the north, and are supplied by the traffickers out of New Orleans and Illinois, who reach them by the Missouri River.⁶³

Precisely what was exchanged for firearms was not discussed, although bison products, horses, and captured Apache slaves seem likely.⁶⁴ Vial wrote on one aspect of captive taking. The Comanche were:

courageous and of very rational mind, such that they are quite generous and good-hearted with their enemies, and even with their captives ... they had no more than ten men, who were at full liberty, according to their age. Neither they nor their masters knew the origin of their captivity, and thus had become totally Comanches.⁶⁵

The nature of the Taovaya Comanche trade is not here explained, although the Comanche sought the valuable commodity salt from the Taovaya. Much trade in salt, “mucho cambalache en trueque de sal”⁶⁶ was necessary as the Comanche had no other ready source. Later sources said that salt was obtained in chunks from the bottom of some rivers, and that the *Salt Fork Red*

⁶¹ John (1994): 50.

⁶² Vial, 1785, in Represa (1990):27. See John (1994): 50, n 50-52.

⁶³ Vial, 1785, in Represa (1990):27.

⁶⁴ Although not discussed openly in any of the Vial texts, taking captives for the purposes of maintaining population and for trade purposes was a major component of the Comanche, Taos, Santa Fe, and French trade systems.

⁶⁵ Vial, in John (1994): 51.

⁶⁶ Vial, 1785, in Represa (1990):27.

River was one such source.⁶⁷ Presumably, the relatively settled Taovaya either mined salt in this way or obtained it from others who did. Since the Cuchanec will later be seen to occupy the land around the *Salt Fork Red River*, this trade remains somewhat mysterious, other than attributing the Comanche requirement to their mobility. Since the Taovaya had extensive agriculture, grown foods also comprised a significant part of their trade.

To the northwest were the Yamparica, or “Cumanche Occidentales”, distinguishable only by their “corte del pelo,” or hair style. The Yamparica had twice the population of the Cuchanec in 1785, likely meaning they had avoided the early 1780s smallpox epidemic. About 450 miles separated the two groups. If they had 4,000 citizen fighters, “twice as numerous” as the Cuchanec, perhaps they had a population of some 20,000 in 1785. However, there is nothing in the later argonaut records to suggest any such population, and I distrust Vial’s claim; the region was virtually unpopulated by 1806. Vial said Yamparica were “friends of” the Kiowa and Kansas, and of the Santa Fe Spanish. They were “always at war” with the Utes and Skidi Pawnee. In 1785 they were at odds with the Béxar Spanish.⁶⁸ Contrary to the standard view of the Comanches as being comprised of several distinct divisions, Vial informs us there were but two such in 1785; the Yamparica, who occupied lands on and north and west of the *Canadian River*, and the Comanche Oriental who lived about and to the north of the *Red River*, centered on the mountain Piraoya, or *Mt. Scott, AR*.

Pedro Vial: 1786-1787.

Back in Béxar Vial was commissioned by *gobernador* Domingo Cebello to find a trade route from Béxar to Santa Fe across the plains. This Vial roughly accomplished in 1786 in very peculiar fashion. Rather than following the ‘natural’ route along the Colorado River,⁶⁹ thence across the *Llano Estacado*, he struck north to the Red River at the Taovaya villages, then west along the Red River to Santa Fe. All southern Vial routes would gravitate to Quich agricardo regardless of destination.

Vial left Béxar October 4th, 1786 [**Point 1**, Figure 7.5], arrived in Santa Fe May 26, 1787, and en route stopped first at the Tawakoni village, then the Taovaya villages on the Red River.

⁶⁷ Kavanagh (2008): 155, 332. Informants Post Oak Jim and Yvani.

⁶⁸ Vial, 1785, in Represa (1990):26-28.

⁶⁹ This is the Colorado River of Texas, not to be confused with the Arizona river.

Vial wintered there as he was ill, and he was told it was an exceptionally bad winter in the mountains at Santa Fe.⁷⁰ Route-wise anything else is conjecture.⁷¹ Vial likely made a relatively straightforward route for this trip; a qualifier is that Vial became injured, ill, and delirious soon after setting out. He made straight for the familiar Tawakoni and Taovaya villages then followed the well-known Indian trade route from there to Santa Fe.

⁷⁰ For the translated record of Vial's expedition and a discussion of the text: "Pedro Vial's Expedition from Bexar to Santa Fe in 1786 and 1787," in Loomis and Nasatir (1967): 262-287.

⁷¹ For a discussion of Vial's Texas history see Loomis and Nasatir (1967): "Introduction". Also, Okah L. Jones Jr. "Spanish penetrations to the north of New Spain," 7-64 in John Allen Logan, ed., *North American Exploration: A Continent Defined*, (Lincoln: University of Nebraska Press, 1997.): 52ff.

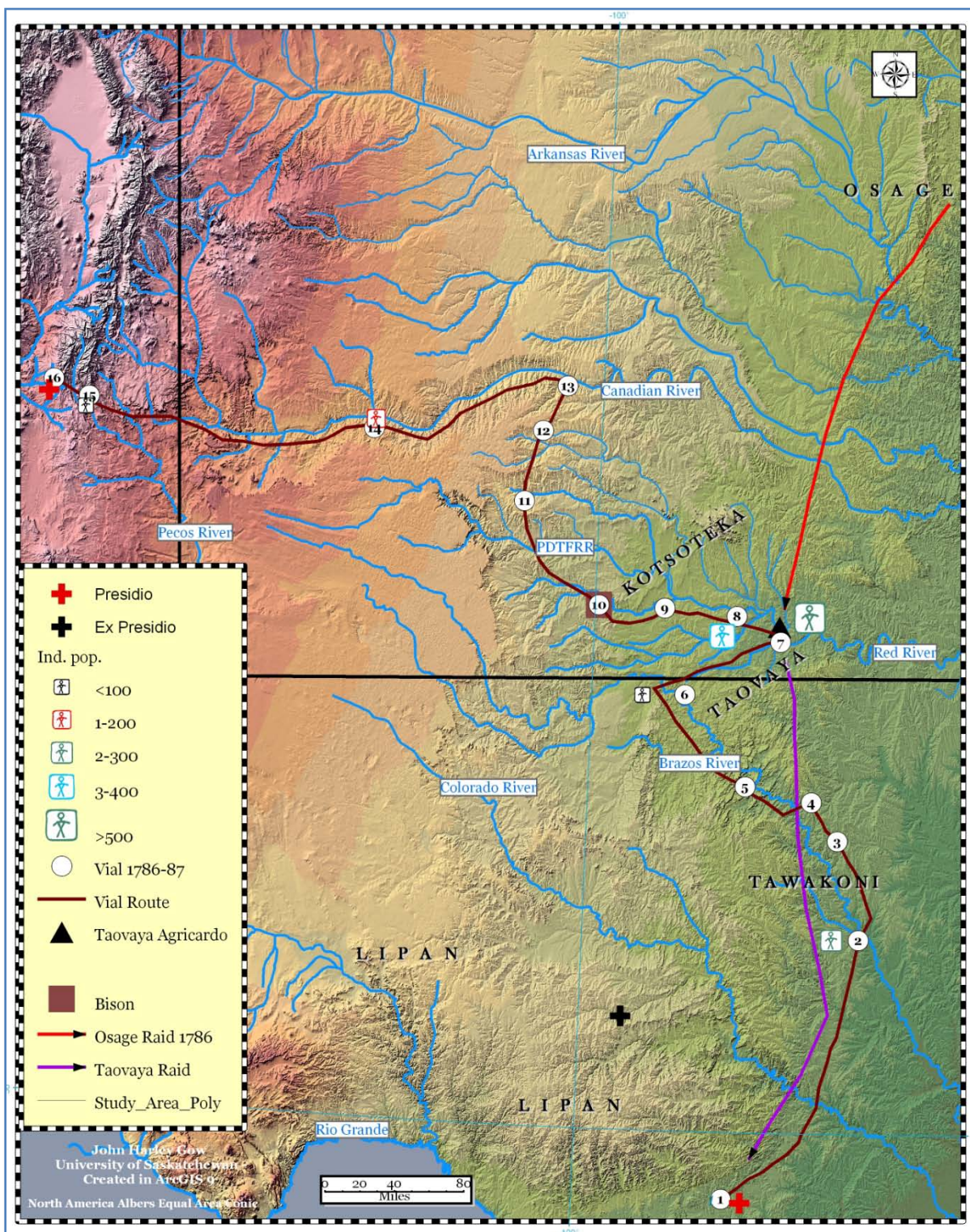


Figure 7.5. Vial 1786-87.

Above the San Saba River Taovaya and Wichita were encountered returning from horse-raiding at Béxar , 13 October.⁷² On the Brazos River⁷³ he found the Tawakoni village [2] of El Quiscat.⁷⁴ Vial struck a lagoon on 18 December [3]. Two days later, 20 December, Vial “came to a forest,” [4] the only such iteration.⁷⁵ This squares with the southernmost reach of the *Post Oak Belt*, for which the Brazos is considered the southern boundary.⁷⁶ He followed the Brazos in company with Wichita and reached an outlier Taovaya village on the Brazos [6]. He then struck out for the Quich, then under “Chief Corichi.” This village site [7] was stable over many decades, both before and after Vial’s visit.⁷⁷ Quich contained a distinct group of Wichita, as well.

Here in council all three groups told Vial that Béxar was a dangerous place for them, particularly the Comanche, because of the Apache and misunderstandings with the Spanish. It was also established that the Osage, or Guagages, were mortal enemies to the Taovayas, showing the reach of that formidable group.⁷⁸ The Osage had conducted a destructive raid here the previous April, killing many Taovaya and destroying their goods and villages as well as the post of French trader Luis LeBlanc. Also, the Apache raided here from the south and west. Both groups stole horses from, and captured Taovaya individuals, the Osage for slaves to the French. Here at the Taovaya agrigardo Vial met the great Kotsoteka⁷⁹ chief Guaguangas or Ecuercapá.⁸⁰

⁷² Vial 1786, in Loomis (1967): 270. See, “Wichita raid,” Figure 3.

⁷³ Rio de los Brazos de Dios; already named in 1786, as were the Colorado and the Pedernales rivers. These rivers were known and [re]named by Spanish out of Tejas

⁷⁴ Vial 1786, in Loomis (1967): 272. Nasatir n: the editor makes this out to be near Waco, TX. Athanase de Mézières visited here 1772-1779, op cit.

⁷⁵ Vial 1786, in Loomis (1967): 270.

⁷⁶ “Native Plant-Life Regions” in A. Ray Stephens and William M. Holmes, eds. *Historical Atlas of Texas*. (Norman: University of Oklahoma Press, 1989): Figure 6. That Vial seemingly passed through a finger of forest here seems to validate the Atlas’s representation for the 1670s.

⁷⁷ Gary Clayton Anderson has written that on this trip Vial found the Wichita on the Brazos in 1786, moved there because of the Osage attack. Anderson, Gary Clayton, *The Indian Southwest, 1580-1830: Ethnogenesis and Reinvention*, (Norman: University of Oklahoma Press, 1999): 180. However, mapping Vial text makes clear he found a village on the Brazos, but also the towns still on the Red River.

⁷⁸ Vial 1786, in Loomis (1967): 276. Both the Apache and Osage raided here for horses.

⁷⁹ Kotsoteka, or ‘buffalo eaters’, the westernmost Comanche division. From Rejón (1995[1865]): cuhtz or kuhtsu, bison, and tehcaró, eat. Geoff Cunfer has noted that Kotsoteka “sounds like Nahuatl”; Comanche is a language of the Uto-Aztecan family.

⁸⁰ Vial 1786, in Loomis (1967): 279 ff. Ecuercapá was known by at least twenty names including El Huerfano, likely because of the site of his home territory, discussed below. Ecuercapá was the great Kotsoteka Comanche chief, successor to the various Cuerno Verdes; he died in 1793. If the Comanche ever had anything like a “king,” Ecuercapá was a likely candidate, as he held that rank in both eastern

Ecueracapa was conducting a war against the Apache, likely exacerbated by a severe drought on the *Llano* and the Southern Plains more generally.⁸¹ Drought on the *Llano* drove bison off that steppe and back onto the rolling plains to the east. Since there is no evidence for bison west of the *Llano* in historic times, this drought forced the Apache to increasingly intrude on their ex-territory, now held by the Comanche and their allies.

The discussion around trade all centered on the Spanish, particularly at Béxar; the Kotsoteka Comanches were understandably more concerned with Santa Fe. Here and elsewhere in the record it is clear that New Mexico was regarded as a distinct entity by the Comanche, separate from the greater Spanish enterprise.⁸² Vial argued that if the Indians did not maintain peace with the Béxar Spanish that they would not have “powder and balls” and that all their enemies will learn this and “come to make war on you.”⁸³ Although Vial was focused on the Santa Fe trade, the Taovaya village location was essentially the apex of a ‘trade highway’ from Natchitoches in which the Taovaya were the middlemen between the Louisiana Spanish and the Comanche. Vial later noted that this river that “the Frenchmen call the Río Colorado River ... passes Naquitochi[.]”⁸⁴

In company with some Comanche Vial moved west January 6, 1787, and began the slow trek west to Santa Fe. They encountered a “road” after seven leagues. At nine leagues they reached a Comanche camp [8] headed by the “chief ..called Zoquiné.”⁸⁵ Zoquiné soon arrived with “animals”, presumed horses, and mules, stolen from the Taovaya by some young

and western divisions of the Comanche. The Kotsoteka were the nearest branch of the Comanche to the Apache, now driven back off the plains into New Mexico and further southwest. Also see Hämäläinen (2008): 103ff.

⁸¹ “Letter, Fernando de la Concha to Jacobo Uguarte y Loyola”, June 26, 1788. In, Thomas W. Kavanagh, *The Comanches: A History, 1706-1875*, (Lincoln: Bison Books, 1999[1996]): 140.

⁸² For an excellent discussion of how the residents of Taos were discrete actors from the Santa Fe Spanish see Pekka Hämäläinen, *Comanche Empire*, (2008): 83. “Comanches ... conceived Taos not as a part of the larger Spanish-controlled New Mexico, but as a separate community following autonomous policies. [...] Some Spaniards...saw Taos as a virtual Comanche satellite.”

⁸³ Vial 1786, in Loomis (1967): 276. This seems rather disingenuous since there is no record of the Spanish including arms in trade with the Comanche. Perhaps the Bexar Spanish engaged in some black market arms trade with aboriginals, although given the chronic lack of arms among Spanish settlers this would have been an interesting tactic.

⁸⁴ Vial 1786, in Loomis (1967): 281. The Comanche were highly concerned with euramerican trade and it seems likely that Vial in company with the Kotsoteka kept the Natchitoches connection to himself. The Kotsoteka area of influence lay to the west of the Taovaya.

⁸⁵ Vial 1786, in Loomis (1967): 277.

Comanche; these animals were returned to their owners. Vial learned that the Béxar Spanish in concert with the Apache warred against the Comanche, but that Zoquiné and Béxar *gobernador* José Menchaca had reached a peace and restored trade. The great gaps in the journal indicate that Vial spent weeks in camp; this is unexplained other than the one reference to a hard winter at Santa Fe, and possibly his earlier illness returning. This would also be the last Comanche camp encountered until mid-May on the *Canadian River*. The only reference on the journey regarding foodstuffs was near the Zoquiné camp on 18 March. After the Pease River they set out “looking for buffaloes” along the Red River [10]. The presence of bison suggests another reason for wintering on the Red River. Of course it could also mean that the Taovaya village had other foodstuffs and that they did not need to hunt until leaving the main village. The only hint that the Taovaya (Wichita) were an agricultural people was in Vial referring to digging hoes as a trade item.

From this point on Vial was in a relative rush to Santa Fe. They followed rivers to the escarpment of the *Llano Estacado*, but did not take the direct route and followed the breaks northward to the *Canadian River*. Since it was spring they were not avoiding weather on the *Llano*, although it is possible that drought still lingered on that steppe. All rivers encountered were referred to as “Colorado”, meaning red in Spanish. They all, the *Red*, *Washita*, *Colorado*, *Canadian*, et al, headed in the Late Cenozoic Alluvium of the *Llano Estacado* or the steppe just to the north; these plains accumulated from alluvial/windblown sediment containing iron oxide. They flow through red clay soils picking up additional red sediment.



Figure 7.6. How the "red" rivers are named. A creek off the Prairie Dog Town Fork of the Red River, Palo Duro Canyon TX. September 2008.

Not until April 6 did Vial reveal he was traveling in company with the Comanche chief Zoquiné.⁸⁶ At this point they met other Comanche [12] coming from Béxar. Vial continued to the *Canadian* and turned west where he encountered villages of Yamparica Comanche chief Parauarimuco [14]. Vial then set the fastest pace encountered, averaging 11 leagues (30 plus miles) a day. He struck first an arroyo⁸⁷ of the Pecos River, then the Pecos pueblo [Cicuye] the day after. The former great Taino agricardo was now a small Spanish village. Then, after traveling 8 leagues, he reached Santa Fe May 26, 1787.

His delayed arrival and roundabout route did not make a good impression upon his employer. Another and more trustworthy individual, José Mares, was being dispatched not to retrace but rather to rationalize Vial's route from Béxar to Santa Fe. While Mares' name is

⁸⁶ Vial 1786, in Loomis (1967): 282. "Chief Zoquiné [said] he would not leave me until ... Santa Fe[.]"

⁸⁷ Arroyos are gullies found in "arid or semi-arid region[s] possessing steep or vertical walls cut in fine grained cohesive sediments." They are found in the Southwest as well as around the Mediterranean, and in South Africa and India. Allanby, Michael, ed., *Oxford Dictionary of Ecology*, 2nd ed., (New York: Oxford University Press, 2004[1998]).

sometimes spelled Josef / Joseph in the primary sources, and could be either French or Spanish, it is likely his trustworthiness derived from his Spanish ethnicity. As Mares headed for Béxar, Vial redeemed himself by drawing the most extraordinary map for *Gobernador Anza* [Figure 3, Vial 1787]. This map not only places the 1786-87 journey in geographic context, it reveals Vial's astounding and thoroughly unique knowledge of the Transmississippi West.

"Mappa Del Territorio Compriendo Entre La Provincia De Nuevo Mexico Y El Fuerte De Natchitoches Ye Tejas" (Figure 7.7) was what Vial produced. Among its other attributes it is the first and only map produced before 1800 that shows the correct rising of the Missouri River in the *Rocky Mountains*. Further it depicts both the "maundane" [Mandan] and the "riquirara" [Arikara] in correct relation to each other and the Missouri River. As editor Wheat noted, this knowledge was unique to Vial⁸⁸ and is inexplicable but to concede that Vial actually had worked his way from Canada down the Mississippi/Missouri. To the north of this Study Area, the Vérendreyes had figured the Mandan location from the north in 1738 for the French, it would take Lewis and Clark to figure this geography for the Americans.⁸⁹

⁸⁸ Carl Wheat, *Mapping the Transmississippi West: 1540-1861*. Vol. 1, *The Spanish Entrada to the Louisiana Purchase, 1540-1804*. (San Francisco: The Institute of Historical Cartography, 1957): 126. The 'unique' belongs to Wheat, 'inexplicable' to this writer.

⁸⁹ David Thompson reached the Mandan villages from Canada in 1798.



Figure 7.7. "Mappa Del Territorio..."

Vial revealed that no matter how inadequate his journaling skills, he was a mapper *sans pareil*, albeit ignorant of the compass. This map recreated his journey from Béxar to Santa Fe but also reveals his existing knowledge of the *Red River*, “Rio Colorada” and *Arkansas River*, “Rio Napeste”. He revealed his ignorance of the Llano by showing the Gallinas flowing west rather than south, and of the downstream Canadian; he shows it running to the Red rather than the *Arkansas*. Of special interest is the centrality of the Taovaya villages on the routes through the Study Area. This map became even more useful when georectified to the GIS desktop (Figure 7.6) the Santa Fe and Béxar points were used as reference points.

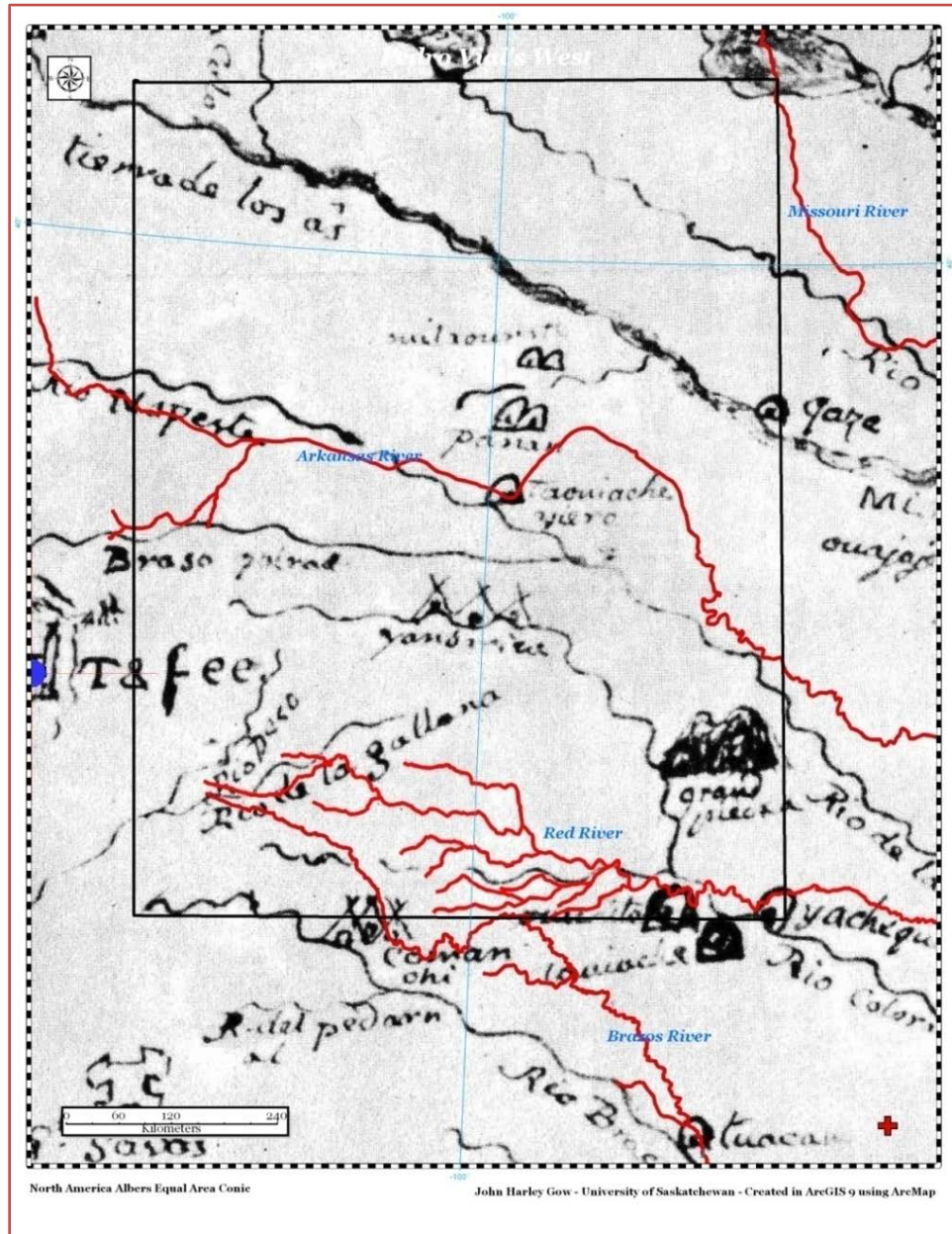


Figure 7.9. Georectifying Vial. Pedro Vial. "Mapa Et Tierra Qe. Yos Pedro Vial Traigo Tranzitau En St. Tafee Este Dia 18 De Ouctubre De Las 1787." In *Mapping the TransMississippi West*, Vol. 1, edited by Carl I. Wheat. (San Francisco: Institute of Historical Cartography, 1957[1787]): 213. GIS features: "Rivers", "Places"; author files: "Presidios", "Missouri", "Brazos", "Red".⁹⁰

⁹⁰ The Santa Fe point is visible as a blue dot extreme left, the Bexar point is not visible in this cropping. Specific rivers were highlighted in red and superimposed on the map image.

This process reveals Vial's startling mental picture of the Great Plains, from *Canada* to the Gulf of Mexico, particularly the relations between the *Red/Colorado*, *Arkansas/Napeste*, and Missouri (northeast corner). It becomes obvious in map history that this map was never disseminated, certainly not to any Americans. What Thomas Jefferson would have paid for this map! Pedro Vial had acquired by 1787 a body of knowledge of the Study Area that Americans would not achieve for sixty years.

Vial traveled in accordance with Indian custom and political realities. Throughout his journey he was 'in the care' of first the Tawakonis of Quiscat, then in the safety of the Taovaya village, and finally with the Penetaka⁹¹ Comanche Zoquiné who escorted him to Santa Fe. The Penetaka had a difficult relationship with the Béxar Spanish. Zoquiné also stayed off the *Llano Estacado* by design and skirted the breaks to the South Canadian River where he encountered Yamparica Comanche. This kept Vial within the drainage systems of the Colorado and Red Rivers until reaching the Canadian. Why this convoluted route? It appears that the Llano Estacado was a forbidden zone for the Comanche and firmly in Lipan Apache hands. The Chamuscado-Rodríguez Expedition 1581-82 reported that the Pueblo Indians feared to go onto the Llano Estacado because of the Apache. This still held in 1787.

Environmentally, Vial's journal is less enlightening. There was another serious winter in the mountains, but made no mention of extreme weather on the Plains. We learn that he was bison hunting along the Red River, but no details. Vial made no reference to ground cover. He started off on horseback; we know this only because he fell from his horse when ill. Later it would seem by distance traveled that he was on foot after the Taovaya town as there is no indication of horses on the later journey, barring occasional daily distances. However it is likely that illness was the limiting factor. A travel regime that would later exceed twenty miles per diem suggests they had horses throughout. Vial provides no direct evidence for a great desert. One overall impression is of regions along the Red and Canadian Rivers that were without aboriginal groups. Kavanagh speculated that the great smallpox epidemic of 1780-81 had depopulated this geographic,⁹² but Vial's later expeditions provide a different explanation.

⁹¹ Rupert Norval Richardson, *The Comanche Barrier to South Plains Settlement: A Century and a Half of Savage Resistance to the Advancing White Frontier*, (Millwood NY: Kraus Reprint Co., 1933): 70. When the Spaniards said 'Comanches' they meant Penetaka or Southern Comanches.

⁹² Kavanagh (1999[1996]): 98.

José Mares: 1787-1788.

New Mexico's Governor Juan Batista de Anza was very dissatisfied with Vial's route. Anza's solution was to send another proven plainsman to find the most direct route from Santa Fe to Béxar. Three weeks after Vial's arrival, "Corporal José Mares, retired" was sent out to find that route.⁹³ That Mares' route was as far from direct as was Vial's reveals the political realities of the southern Study Area in the 1780s. Unless the expedition was an army, these argonaut routes were all curtailed and managed by various aboriginal groups. In the case of Vial and Mares it was the Comanche who called the shots. Mares kept a journal of his travels which he later submitted to the New Mexico archive June 20, 1788. Several slightly different copies exist, accounted for by their having been copied by scribes for the Mexican and other archives. Loomis and Nasatir translated and collated them and published the results in *Pedro Vial and the Roads to Santa Fe*.⁹⁴

⁹³ José Mares, "Journal of José Mares, Santa Fe to Bexar, July 31 to October 8, 1787, and return, 1788," pps. 289-313 in, Noel M., Loomis, and Abraham P. Nasatir, eds., *Pedro Vial and the Roads to Santa Fe*, (Norman: University of Oklahoma, 1967): 289.

⁹⁴ Loomis (1967): 288-315.

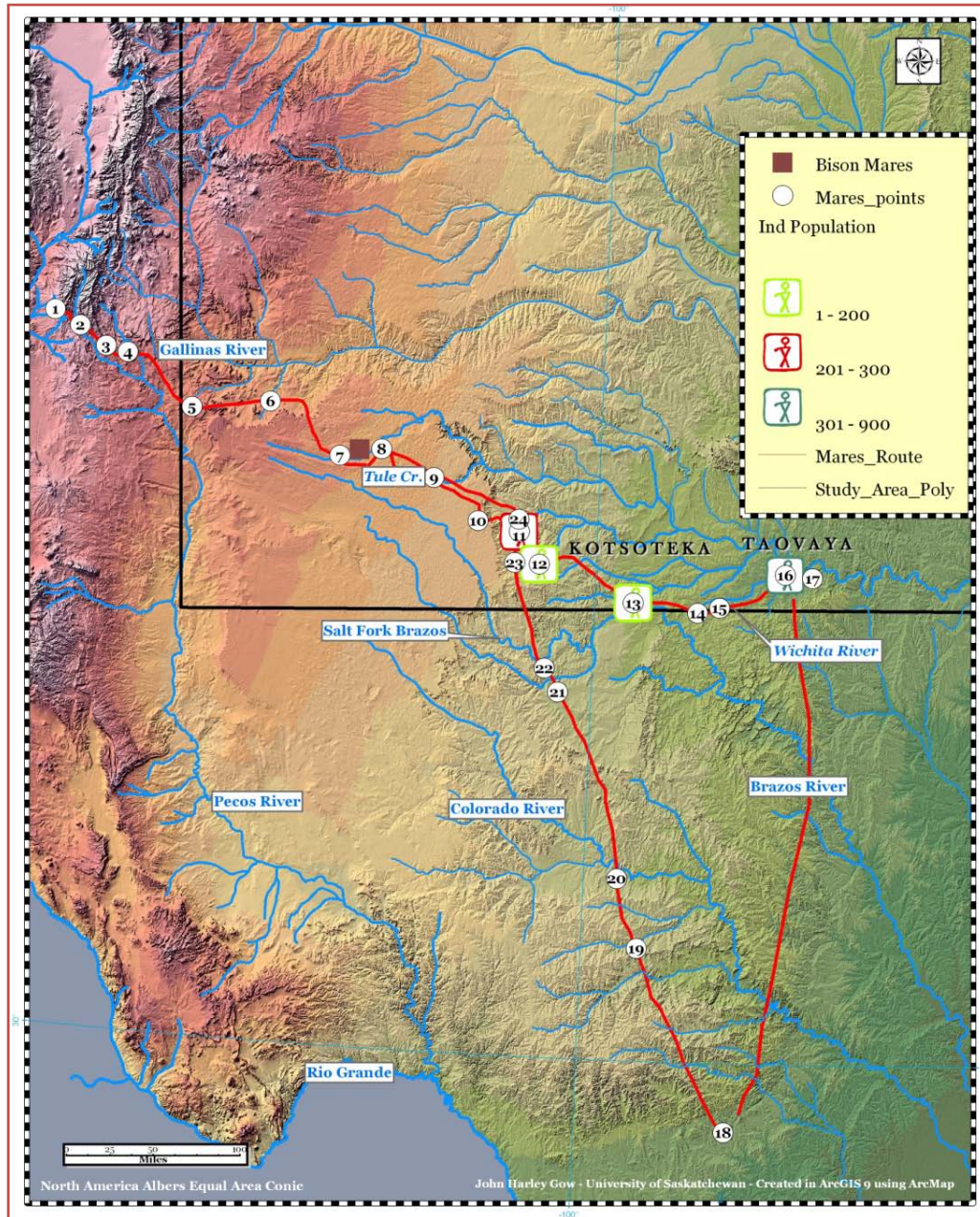


Figure 7.10. Jose Mares, 1787-88.

After duplicating the last stage of the Vial route, Santa Fe to Pecos, Mares headed out onto the *Llano Estacado*, and for a day or two it appeared he would take the direct route to Béxar, but this was not to be. After fording the Pecos, to the east, he found “coarse grass” in a swampy area. On 1 August he camped on the “little canyon of Bernal,” either naming that place

or giving the first record of the name [3].⁹⁵ On 2 August, Mares camped on what he called the Gallinas River, the first iteration of this name encountered [4]. This point was “much below the last cottonwoods.”⁹⁶ On 3 August he passed water flowing west to the Pecos, the last such encountered, and then headed east. On 4 August the text has an easily correctible error: Mares wrote he headed “west on the 4th,” but then states he kept the broken land to the “right and to the south,” obviously traveling east here.⁹⁷ Here we learn he was travelling with “the Comanches.” On 5 August, they passed “a famous landmark” (Tucumcari) not yet named, and encountered two Comanches returning from raiding Apache [6]. On 6 August, they “crossed the mesa” and made only 4 leagues in climbing the very steep escarpment to the *Llano Estacado*.

Now on the llano in early August, it might be expected that we can identify this famous place by its known characteristics. Mares reported “a very wide plain which contains no landmarks,” and began to alter his routine by travelling in the cooler hours of the day, early morning and evening.⁹⁸ Although still ‘unnamed’, the *Llano* would be identified similarly by all who crossed it, regardless of season. Midday he crossed an arroyo “which has two clumps of chinaberry trees,”⁹⁹ then supplies us with a neologism at the “Blanco River”; now Tierra Blanca Creek, [7] named because the “cliffs are white.”¹⁰⁰ In the evening of the 7th he camped at an arroyo¹⁰¹ where he saw bison, or bison sign, and named Arroyo de Cíbolo.¹⁰² Editor Nasatir opined that it may have been a rainier summer than usual to find bison on the llano. 1787 may have been a rainy year start to finish, as Mares also reported high waters and rains throughout the

⁹⁵ DeLorme, *New Mexico Atlas & Gazetteer*, 4th ed., (Yarmouth ME: DeLorme, 2006.): 24.

⁹⁶ Mares; in Loomis (1967): 290. Gallinas in all likelihood meant ‘wild turkeys’ as it does now in New Mexican argot. Cobos (2003).

⁹⁷ Mares; in Loomis (1967): 290.

⁹⁸ The transit across the Llano had its own unmistakable lingo.

⁹⁹ A textual/translation problem. Chinaberry trees are an invasive species brought from Asia. This transfer is commonly assumed to have begun in the 1830s. I wonder if this might have been Texas Mulberry (*Morus microphylla* Buckley) indigenous to the Southwest, and particularly, the Panhandle. NRCS/USDA: <http://plants.usda.gov/java/profile?symbol=MOMI>. Accessed, 13 January 2010.

¹⁰⁰ Mares; in Loomis (1967): 291. Tierra Blanca Creek joins the Prairie Dog Town Fork Red R. just above Palo Duro Canyon. ‘Rivers’ layer, and DeLorme, *Texas Atlas & Gazetteer*: 29.

¹⁰¹ In Mares’ usage an arroyo features running or standing water. Vial used the term for both dry and wet gullies. ‘Draws’ is the anglicized regionalism.

¹⁰² Cíbolo, uncapitalised, is Spanish for buffalo. In Spanish form the ‘o’ ending indicates maleness, therefore ‘Gully of the bison bulls’.

autumn.¹⁰³ Here, on the headwaters of the *Red River*, would be the most direct route to the Taovaya villages. However, on the 8th Mares traveled southeast “very rapidly from sunrise until 1 in the afternoon ... across some very broad plains,” to siesta at the Río del Tule, which he named after the abundant reeds.¹⁰⁴ On the 9th, he arrived at “the edge of a precipitous mesa”, the eastern Caprock escarpment, from which he could see two rivers below. He followed a path down from the *Llano* to the *Pease River*.¹⁰⁵ Down this river a league or two was the Comanche camp of chiefs Zoquinatya (Zoquine, Vial 1787) and Sogayes. Crossing the *Middle Pease R.*, Mares encountered more Comanche camps under Nocay, 11 August [11].



Figure 7.11. White cliffs at Palo Duro Canyon. Taken some twenty-five miles east of Mares' crossing.

¹⁰³ September 3, “stream swollen by heavy rains” [Point 15]; The Wichita swollen on September 4th, the Guadalupe had a “fast flow of water which was never seen in the world” [!?] October 6, 1787.

¹⁰⁴ Editor Nasatir mis-handled this naming: ‘Tule’, indigenous term for reed or bulrush, was first used in America in the Valley of Mexico. Philip A. Munz, *A California Flora*, (Berkeley: University of California Press, 1959). The various Tule Draws combine to form Tule Canyon / Creek which flows into the Prairie Dog Town Fork Red R. near Silverton, TX, below the Palo Duro Canyon.

¹⁰⁵ He called the two branches of the Pease, ‘Señor San José’, and ‘Sangre de Cristo’. Mares; in Loomis (1967): 293.

In crossing the *Llano* in early August he had reported no Comanche presence. All other expeditions stopped here to visit Comanche camps,¹⁰⁶ although none made the crossing at this time of year. Presumably the Comanche sensibly abandoned the *Llano* in high summer. From this point Mares made a convoluted route. From the Nocay camp it is just over 100 miles ‘as the crow flies’ to the Taovaya, but Mares took almost a month and 200 plus miles getting there. The only obvious explanation is that they stopped en route to add two more Comanche groups to the now impressive retinue; another suggestion is that summer travel took an extra toll on their horses, necessitating longer layovers. The following is a best guess for the intervening route, reflecting that argonaut routes were determined at least as much by the wishes of their aboriginal companions than by geographical logic.

On the 12th they saw woods to the north, along the *Pease River*. All argonauts along the *Pease* noted otter and beaver, explaining the many streams now bearing some variation of those names. The Spaniards did not place the value on these species the French did. ‘They’, now including Nocay’s group, struck the *North Wichita* the next day, and it was full of *bagres*, or catfish.¹⁰⁷ On the 18th and on the same river Mares reported “many trees of white wood,” and on the 20th again, “many groves of different trees.”¹⁰⁸ On the 22nd, Mares crossed the *South Wichita* and “followed a crest of the table land.” Here they met two more chiefs of the Comanche, Ychape and Tociniquinta, at a place Mares styled La Ranchería [13]. They then traveled through country with “much timber” interspersed with mesquite. There were “settlements” all about, and this squares with Vial finding the Comanche rancherías here.¹⁰⁹ On the 28th Mares struck the Rio de los Taguayzes (Taovaya) or Little Wichita, naming that stream, and then took a straight route to the Taovaya towns. The streams on 3rd and 4th September were “swollen by the heavy rains,” and they passed through wooded areas including liveoaks.¹¹⁰

¹⁰⁶ Mares left Santa Fe at the ‘wrong’ time of year according to practice. His start was a reaction to the return of Vial. Under normal circumstances the Spanish would not set out in high summer to cross the Llano Estacado.

¹⁰⁷ One of the headwaters of the Brazos on the Llano Estacado is known as Catfish Draw.

¹⁰⁸ Mares; in Loomis (1967): 294.

¹⁰⁹ See Point 6, Vial 1786-87.

¹¹⁰ Southern Liveoaks, Encino in Spanish, are evergreen trees that grow as far north and west as the Panhandle. They vary in size from shrubs to massive 50 foot tall trees depending on conditions. Liveoaks produce acorns from which meal and oil were processed by some aboriginal groups.

Mares described the Taovaya site as comprising three towns, two on the south side of the Red River, and the third on the far bank [16]. These sites numbered 23, 40, and 27 lodges.¹¹¹ A few leagues to the 'south', was "El Comerico de los Franceses", likely *Spanish Fort* [17]. To this point French traders, came, legally to 1763 and illegally thereafter, to trade with the Taovaya/Wichita. These traders came both from Natchitoches and from "Arkansas Post overland through Osage country."¹¹² En route Mares reported "scattered mesquite." Mesquite close to the Taovaya villages brings up an important ecological problem, that of fire.¹¹³

Dan Flores has written of Mares's description that

mesquite increased significantly as one approached [the Taovaya] villages on the plains. Since Mares's journeys were in the period after horses were introduced he may have been describing an overgrazing effect. Or possibly, mesquite thickets springing up around villages may have represented a localized form of fire suppression similar to the kind that led to the enormous increase in mesquite and juniper on the Southern Plains since Indian fire management ended.¹¹⁴

A peculiarity of this chapter's sources, indeed of all sources surveyed up to the 1800s but for Cabeza de Vaca, is that only one instance of fire reportage has been unearthed. Later sources would show that the Comanche used fire as a tactical weapon against Texan and American intrusions.¹¹⁵ Since the argonauts travelled across the Southern Plains at all times of the year, this is a very curious lacunae. Flores's notion of mesquite signifying overgrazing is also worth

¹¹¹ Mares did not provide the means to estimate population based on lodge size. A guess is that these 90 lodges held a thousand individuals.

¹¹² Nasatir, n 22, in Mares; in Loomis (1967): 297.

¹¹³ Mesquite is a leguminous tree of the Southwest that can grow to 20 feet, but generally grows as shrubs. They send a taproot down as much as 150 feet and are very drought and fire tolerant. Younger plants have very effective thorns. They must be grubbed out to be removed; burning won't do it. Besides fixing soil nitrogen, mesquites are highly valued by humans and other animals. Mesquite beans provide flour or meal. Many animals as varied as bees and coyotes depend on the tree, which is also a favored source of firewood. Unchecked it destroys rangeland. Presumably, regular burning in combination with millions of grazing bison kept mesquite in check before the 'great extirpation'.

¹¹⁴ Dan Flores, "The Great Plains 'Wilderness' As a Human-Shaped Environment," 343-56, *Great Plains Research* (9:2, 1999): 348. Flores does not mention Euramerican wildfire suppression as a cause. Given the absence of evidence for aboriginal firing, this seems to be a first order cause of grazing lands degradation.

¹¹⁵ Hämäläinen (2008), a rather sensitive environmental voice, does not discuss fire. Flores elsewhere (1985) discusses fire as an environmental factor, but does not report any mentions in relevant primary sources. Contrarily, evidence for strategic human environmental firing, in mountain environments is see Thomas R. Vale, ed. *Fire, Native Peoples, and the Natural Landscape*. (Washington: Island Press, 2002), in particular the Parker chapter on the intermountain Southwest. For an introduction to fire see Stephen J Pyne, *Fire: A Brief History*, (Seattle: University of Washington Press, 2001).

considering, although the paucity of Mares' description makes it impossible to estimate horse numbers.

From the Taovaya towns Mares now took a direct if unmappable route to Bexar. He either avoided or did not report any contact with groups such as the Tawakoni, and his journal is but a succession of arroyos and rivers upon which he bestowed the names of saints. All the rivers ran high. He arrived at Bexar October 19, 1787 [18]. Mares' roundabout route, and the reasons for it, were duly noted by Governor Pachecho at Béxar ;

[t]here arrived four Eastern Comanche chiefs and 10 principal Indians with 38 warriors, 23 women and 6 children. Accompanying them were Mares, an interpreter, and a servant.

Mares advised me that he has not opened the road immediately, although with this destination in mind [Béxar], he was not successful because the Comanches arrived at the Taovaya villages. Mares will remain here until March because of the heavy snows of winter.¹¹⁶

Given the Comanche influence over argonaut routes, in 1787 a safe and direct route from Béxar to Santa Fe remained unknown to the Spanish.

Oddly enough, Mares began his return trip to Santa Fe from Béxar on 18 January, 1788, as the 'normal' course of action would have been setting out in April to avoid bad weather. And, Mares did pass through snow on the Texas plains. In his poetic fashion he named the snow-bound camp site "Mi Señora de las Nieves."¹¹⁷ His transit through some difficult terrain was eased by following "regular path[s] of the buffalo herd[s]" which handily led from one watering hole and grazing to another. Just before reaching the San Saba River, he encountered unidentified Indians from whom he purchased a woman captive for eight horses [19].¹¹⁸ He would this time avoid the Taovaya towns and head in a regular north and westerly course. He neared the Study Area in March, 1788, having wintered on the Pedernales River [21].¹¹⁹ We can only assume that grazing for the horses and firewood and game for the men was close to hand. Mares now travelled with Comanche chief Sofias ("Chojais"), and crossed the "Brazos de Dios"

¹¹⁶ "Letter; Rafael Martínez Pachecho to Juan de Ugalde", 12 October, 1787. In, Loomis (1967): 303.

¹¹⁷ Mares; in Loomis (1967): 309.

¹¹⁸ This is one of only two direct references to horses. The woman was unidentified, but apparently Mares was on the lookout for her on orders of Pachecho. Nasatir, n 47 and text o p. 308, in Loomis (1967).

¹¹⁹ Editor Nasatir opines he stopped on the Brazos, but Mares wrote that he re-started by crossing the "Río de Pedernal". Mares knowledge of rivers seems to have been substantial. Mares; in Loomis (1967): 311.

16 March, 1788. He marched through dense forest for two days before coming to a river that was “so salty the animals could not drink it.”¹²⁰ In calling it the Rio Salado, he may have named the Salt Fork Brazos River. He would march through broken ground crossing salty rivers, “very bad forests,” possibly shin oak, and dry arroyos for some thirty leagues before striking, on March 23rd, the place where he had encountered Zoquíné on August 9. Here he found “three springs of fresh water,” possibly a reference to nearby *Roaring Springs, TX*.¹²¹

Just north of this camp was another forest, likely cottonwoods, and on an arm of the *Pease River*, likely *Kent Creek*, he encountered Paranuarimuco and two other chiefs of the Kotsoteka Comanche [23]. The Pease River valleys were at this time a major conduit to and from the Taovaya villages from Santa Fe, and likely as well an established stop on the Santa Fe to Béxar route. Mares stayed here two weeks, “to strengthen my animals, which were becoming very run down.”¹²² This is the only direct comment he made on grazing horses the entire journey. Some of his Comanche entourage “turned back”, while sons of the Kotsoteka chief Tanqueoyaran joined him for the trip to Santa Fe.

Leaving on 6 April, Mares climbed the “rough mesas” to the *Llano* and began to re-trace his journey out. He stopped at “El Tules”, then Cíbolo canyon, reprising his comments from the previous summer. In April there was no need to travel at night. On April 20 he descended from the *Llano* near *Tucumcari*. His route now was very rapid, up to 16 leagues a day, and he returned to Santa Fe on 27 April, 1788.

Mares found no desert or despoblado on the *Llano Estacado* or the Texas plains. He provided evidence for a vibrant and complex aboriginal civilization in terms of trade and occupation, but did not yield much detail about the environmental components of that civilization. He informs us of trade routes and political considerations but not what the people grew, hunted, ate, traded, or traded for. Mares hinted at the presence of bison on the *Llano Estacado* in naming Cíbolo Canyon, and later noted well-worn bison trails on the *Edwards Plateau*. The Comanche economy ran on horse-power and bison products, but these products and the means of acquiring them were apparently as commonplace to seasoned plainsmen as to be invisible.

¹²⁰ Salt Fork Brazos River. Mares; in Loomis (1967): 311.

¹²¹ Mares; in Loomis (1967): 312.

¹²² Mares; in Loomis (1967): 313.

He had an appreciation for trees and made frequent mention of types and location, for instance, provides us with the location of where the cottonwoods ended on the Gallinas River. He mentions the “chinaberry” trees twice on the *Llano* [8], and this squares with the present range of the Texas Mulberry. On the *Tongue River* he reported stands of juniper [12]. On the breaks and plains below and east of the *Llano* he reported a great variety of trees, mostly along river valleys. There was a forest above the North Pease River [11], and there were liveoaks, then as now, along the Red River near the Taovaya towns. He reported “scattered mesquite trees” along the *Pease* and *Wichita* rivers. There were heavy rains along the Red River in September, 1787 and also during the spring of 1788 on the Texas plains above Béxar; Texas rivers ran high both the fall of 1787 and the spring of 1788. He encountered snow on the same plains in January 1788, but neither rains nor snow seemed to slow his progress. Perhaps this rain provided great relief for the Comanches from

lingering drought that drove the buffalo from their usual range; by the fall of 1787 the buffalo had been gone from Kotsoteka country for seven months, and the people had no robes to trade.¹²³

Perhaps the drought was coming to an end.

To his employers, the Mares’ route was roundabout going out, but his return also proved that it was a long and difficult trip taking the suggested route, and there never would be a Spanish Santa Fe to Bexar road. The only time he reported his horses suffering was from the return leg across the *Edwards Plateau*. The outward journey, and also that followed by Vial, out the Red River and then down the Brazos to Béxar may have appeared a more leisurely route, but it might have been the best for horse travel. The ever-present Comanche were a determining factor, as was the Lipan Apache presence on the lower Llano.¹²⁴

Mares named Bernal Canyon, the Gallinas River, the Tierra del Blanco River, Tule Creek, the Salt Fork of the Brazos River, and began to differentiate the many iterations of red rivers. It seems, particularly from his river identifications, that he had a very good grasp of the geography of the region he had transited. Mares’ demonstrated the powerful influence of the Comanche upon the plans and desires of the Santa Fe Spanish. The journey out was simply

¹²³ “Letter, Fernando de la Concha to Jacobo Uguarte y Loyola”, June 26, 1788. In, Kavanagh (1999[1996]): 140.

¹²⁴ Because of the dearth of argonauts across the southern Llano, this impression remains an educated speculation.

dictated by Comanche interests, as Governor Ugalde wrote in summation of Mares' efforts. Mares had been charged

with the object...of effecting the opening of the most convenient and direct road to the capital of Texas, but because the Comanches encumbered him excessively and guided him between the east and the southeast in order to fall upon the important establishments of the Taovayas, the work that he especially undertook resulted in a failure.¹²⁵

Chosen to correct some of Vial's weaknesses regarding directness of travel and quality of reportage, José Mares fulfilled the expectations of his employers on the return journey, however, and he would have a positive effect of the further adventures of Pedro Vial. Mares had proven that there was a route from Santa Fe to Béxar, albeit an imperfect one. Now the door was opened for Vial to find a 'direct' route from Santa Fe to Natchitoches.

Pedro Vial: 1788-1789.

Pedro Vial's 1788-89 expedition from Santa Fe to Natchitoches, to Béxar, and back to Santa Fe was one of the most valuable expeditions in terms of geographical specificity and environmental data surveyed. New Mexico's new governor, Fernando Concha, arranged the expedition.¹²⁶ Concha saw to it that this expedition would yield well-recorded and timely results by sending Vial out in company with two scribes and a military escort of three cavalrymen.¹²⁷ These measures paid dividends, both for the Spanish and future HGIS mappers. Vial 1788-1789 was a complicated operation entailing several different journals and routes, analyzed as follows. Santiago Fernández was a cavalryman charged with keeping a diary of the trip as far as the Taovaya villages and back to Santa Fe, the presumed reach of Santa Fe jurisdiction, his diary is reprinted in Loomis (1967).¹²⁸ Francisco Xavier Fragoso was charged with keeping a diary of the entire expedition.¹²⁹ Vial himself kept no diary of this expedition. A scant month after the return of José Mares to Santa Fe, Vial was back on the trail to the Taovaya villages on 24 June 1788. Figure 7.8 shows the sum of these parts and the data points generated from the various

¹²⁵ Juan Ugalde, "Letter to Manuel Antonio Flórez", December 15, 1787. In Loomis (1967): 305.

¹²⁶ Concha was governor for five years, from August 25, 1787 to autumn 1792. He was re-called to Mexico to answer to the Inquisition. Nasatir, in Loomis (1967): n 1, 316.

¹²⁷ Loomis (1967): 316.

¹²⁸ Fernández 1788, in Loomis (1967): 318-326.

¹²⁹ Fragoso 1788, in Loomis (1967): 327-347. Fragoso is a complicated source as it was hand-copied and widely dispersed. Editor Nasatir outlines his solution to this complexity at, Loomis (1967): n 17, 327. This paper's solution is to point out any possible divergence of meaning, rather than all the convergences.

records to orient the reader. Figures following this give a more detailed picture of their combined reportage.

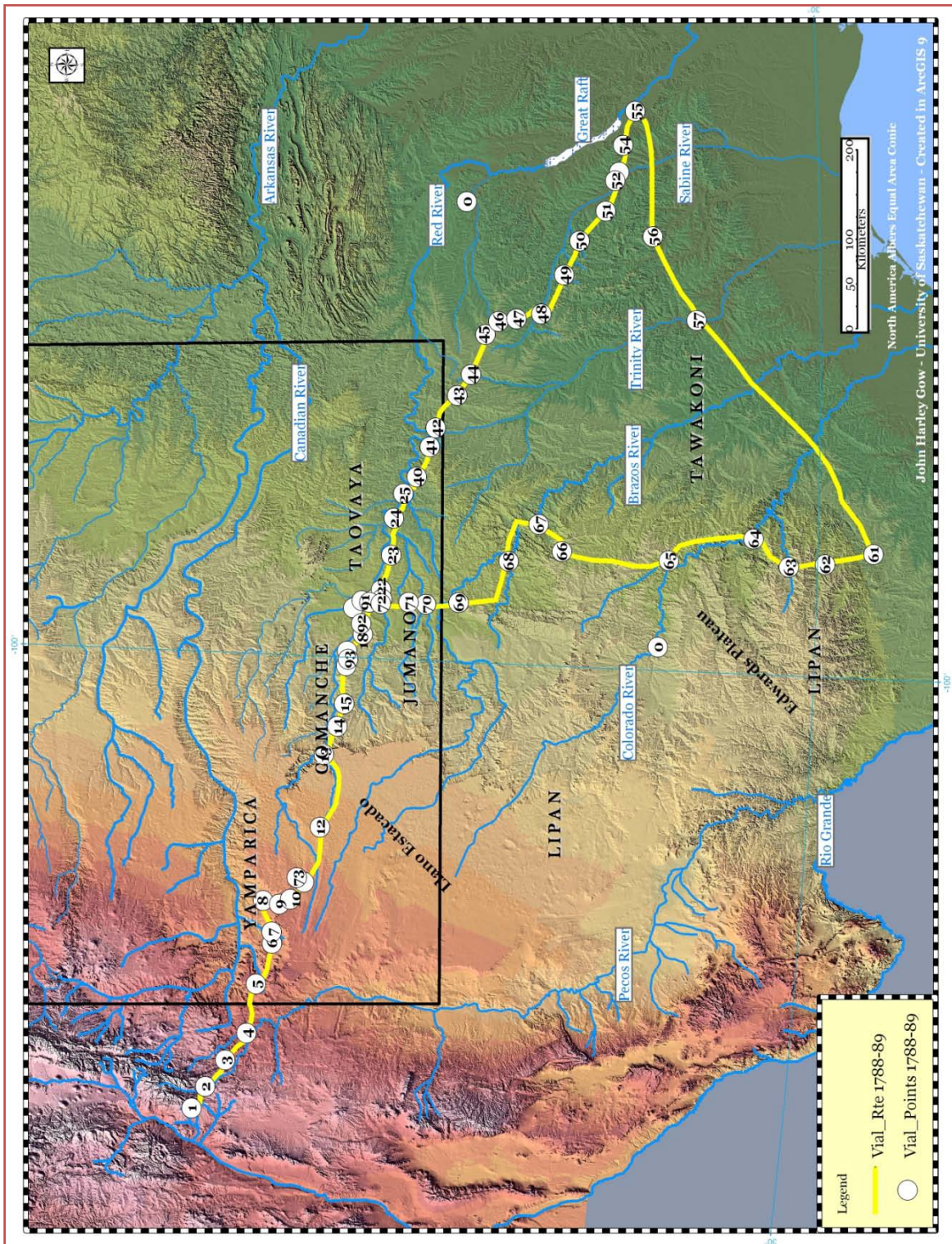


Figure 7.12. Vial Route 1788-89.

They followed a now-familiar route, often with enough specificity to place them within a few miles.¹³⁰ Fernandez noted that “it rained all night” at the Gallatin River [4] and they stayed in camp on the 28th June because of “heavy rains” at Pajarito.¹³¹ Pajarito appears to be a neologism, possibly meaning small birds or little penis, and the name has stuck to Pajarito Creek.¹³² Fragoso described, “good land, pasture, firewood and water,” here with cottonwoods.¹³³ On the 29th they skirted a forest of “savin” or aromatic trees such as cedar, and passed south of a black mesa.¹³⁴ On June 30th they set out at 4am and travelled until they “reached a mesa that is called Tucumcari”[6].¹³⁵ This is the first usage of this term encountered, and the context gives credence to Thomas Kavanagh’s interpretation of the Comanche term as meaning either a place of ambush, or “black sitting on it” referring to an ever-present cloud.¹³⁶

July 1, 1788 they encountered three or more camps of Comanche under the command of Naisaras. They found “56 lodges”, meaning some three to four hundred of occupants. In company they marched on and struck a river, likely *Revuelto Creek*, then camped near “a white mesa.”¹³⁷ On the 2nd they climbed to the llano leaving the “white mesa” [9] to the south and found many playa lakes, on “a plain so extensive that one sees only sky and plain”.¹³⁸ Their marches now began as early as 3 a.m. On the 3rd they came to the “Rio Blanco, which goes to the Jumanos,”¹³⁹ and unlike the previous Vial route, they followed the *Prairie Dog Town Fork Red River* (PDTRR) on the repeated advice of the Comanche. The Fernandez narrative is followed as these argonauts no longer travelled en masse, separating into two or three groups that

¹³⁰ The route out of Santa Fe is now marked by US84 and the Burlington Northern Santa Fe Railway line. Unlike the modern roads, the argonauts kept to the north of the Pecos.

¹³¹ Fernández 1788, in Loomis (1967): 319.

¹³² Rivers, National Atlas. New Mexican meaning of the word, Cobos (2003).

¹³³ Fragoso 1788, in Loomis (1967): 329.

¹³⁴ Liberty Mesa? Fragoso 1788, in Loomis (1967): 329.

¹³⁵ Fragoso 1788, in Loomis (1967): 329. Also elsewhere, Tuonconcaro (Vial, 1793).

¹³⁶ Kavanagh, Thomas W., *The Comanches: A History, 1706-1875*, (Lincoln: Bison Books, 1999[1996]): 139. The *Comanche Vocabulary* is unfortunately not helpful here.

¹³⁷ Fernández 1788, in Loomis (1967): 319; Fragoso 1788, in Loomis (1967): 329.

¹³⁸ Fragoso 1788, Loomis (1967): 331. White Mesa was found on Google Earth [35°10' N – 103° 28'37" W]. Description of Llano; ponds, New Mexico Gazetteer, Times Atlas, p. 109.

¹³⁹ Tierra Blanca, from Vial. Fernández 1788, in Loomis (1967): 320.

rejoined at the main Comanche village, an exploration tactic that Lewis and Clark would emulate.¹⁴⁰

On the 4th they found good pasture, firewood and water along the Tierra Blanca and they progressed leisurely on the 5th as well [11], meeting “Comanches and unattached Comanches everywhere, their tents [by] the lagoons and [by] the said river,”¹⁴¹ contrasting with Mares’ experience. They descended from the *Llano* where the “Del Tule ... joins the said Río Blanco,” and camped with still more Comanche. All argonauts called this stream the Tierra Blanca, now *Prairie Dog Town Fork of the Red River* (after, *PDT Fork*).¹⁴² These encounters give credence to Vial’s 1785 estimation of the Yamparica having some four thousand warriors;¹⁴³ they encountered many hundreds of Comanche east of Tucumcari. To this point they have covered 109 leagues (Fragoso), and the ArcMap distance tools shows 300 miles of travel [13]. To Vila’s eternal credit, this distance measured from the “Escala e 100 Leguas” key on his map equals precisely 100 leagues.

On the 6th they went along the *PDT Fork* in very hot weather, but found good pasture. On the 7th they passed “El Castor,” the beaver, likely *Indian Creek*. Fragoso noted that the *PDT Fork* became very broad, “more than a musket-shot” across, after *Mulberry Creek*¹⁴⁴ where *Indian Creek* entered. On the 8th the hills and arroyos receded, and cottonwoods lined a bend of the river. On the 9th they hunted “some buffaloes” in the morning, then they met fourteen lodges of Comanche under Pochinaquina[17].¹⁴⁵ On July 10th Pedro Vial left the main group to go south and find the Yamparica, presumably where he had found them the previous year. On the

¹⁴⁰ Impressions are still taken from the various texts, but the Fernandez diary provides dates and distance travelled.

¹⁴¹ Fragoso 1788, Loomis (1967): 332.

¹⁴² Remembering that Vial did not keep the journal himself – he identified this river as Colorado previously, but coming from the other direction. Then as now Tierra Blanca Creek is one of the headwaters of the PDT; Tierra Blanca River is further south.

¹⁴³ Thomas W. Kavanagh, *The Comanches: A History, 1706-1875*, (Lincoln: Bison Books, 1999[1996]): 102. This is from a Vial letter of 1785 regarding the trip from Bexar to the Comanche. Text in Kavanagh, 102-103.

¹⁴⁴ Remembering Vial saw chinaberry trees upriver on the Llano from here.

¹⁴⁵ They were just passing out of the hills and noting good pasture daily. Fragoso 1788, Loomis (1967): 334. Pochinaquina offered them excellent hospitality, which seems to have been the commonplace, and told them they were on the right track for the Taovaya towns. Fragoso has Pochinaquina’s group “travelling along” – presumably upriver - and not camped in place.

11th they “crossed bad country because of a turn made” by the river.¹⁴⁶ They left at 3a.m on the 12th, it must have been very hot, and took an afternoon break. On the 13th a large river, *Salt Fork of the Red River*, joined from the north [19]. On the 13th “another copious river” joined from the north; they called the the Río Puerco (*North Fork of the Red River*) [wild pig].¹⁴⁷ To the north they all reported “hills and a range”, the *Wichita Mountains*.¹⁴⁸ This riverine intersection marks the transition to the *Red River* from *PDTFRR*; the journalists would throughout stick with Río Blanco.

July 15, 1788 saw a startling connection with the Comanche [21]. Here they encountered “three chiefs [who] reached that point” and took them to,

their villages, which are composed of 372 lodges, and over which rule these three chiefs, namely: Zoquacante [Zoquine], Cochi, and Visimaxe [Pisimapol].¹⁴⁹

This must have been an extraordinary event, since 372 lodges would equate to at least 2500 individuals, in addition to their several thousands of horses. The fact they enumerated the lodges precisely is remarkable. The Comanche were camped only 75 miles from the Taovaya towns. In contrast, the Fragozo journals say only that they “met a very large band of Comanches,” and were “requested” to stop at the “village of Chief Pisimanpit.” They were well-treated, fed, and entertained, but the discussion was not recorded.¹⁵⁰

Their environmental observations here said more about the Comanche and their reasons for being at this particular site than the argonauts do directly. Fragozo noted near the rivers there was “good land, well provided with pasturage and firewood, and meat,” as direct a reference to bison as food that the journals contain. The camp was located in a vast plain, with rivers and streams, and a “water hole of good water” as an antidote to the salty rivers off the *Llano*. These conditions existed between here and the Taovaya towns. In addition to the lodges reported by Fernández, Fragozo reported “another large band...5 leagues away [with] more than two hundred lodges,”¹⁵¹ representing perhaps another 1500 Comanche. I hazard a conservative guess at the Comanche population along the Río Blanco from the llano to the *Red River* at some 1000 lodges

¹⁴⁶ Fragozo 1788, Loomis (1967): 331.

¹⁴⁷ Fragozo 1788, Loomis (1967): 334.

¹⁴⁸ Forty miles to the north, topography,

¹⁴⁹ Fernández 1788, in Loomis (1967): 321.

¹⁵⁰ Fragozo 1788, Loomis (1967): 337.

¹⁵¹ Fragozo 1788, Loomis (1967): 337. This is another of those points where it is clear that the journalists seemingly rarely travelled together as one group.

or 8000 persons, perhaps half the total Comanche population. On the 16th to the 19th the wide plains continued unabated, but for rivers joining the *Red River* from the north, Río de Dolores (*Deep Red Creek*), and the south, Río de Mermelon.¹⁵²

On the 19th a band of oak forest preceded a plain and the Taovaya towns [25]. Here is a compendium of observations by Fragoso, et al¹⁵³, on the Taovaya towns;

...a plain must extend about 3 leagues ... as far as the first village of the Jumanos (Taovayas), where we were well received and treated by its inhabitants.

These towns of the Jumanos are two on one [north] bank and one on the other [...] The harmony is great, since the country is the most beautiful that I have ever seen.

[25 July] We departed the ... second village and arriving at the third and last ... having travelled a league and a half. The country is level and there is ample pasturage.

[26 July] we set out to the east, crossing the river; then a forest of heavy oak presented itself. This forest is probably four leagues long [and past that] there extends a very beautiful plain.¹⁵⁴

Fernández provided a valuable additional perspective on the Taovaya; first he called the settlements *pueblos*, meaning towns as opposed to camps. This was the only time Fernández used this term in reference to aboriginal groups on the plains.¹⁵⁵ He also identified the Taovaya consistently as Jumanos, and describes their towns as follows;

This [first] pueblo consists of 17 huts made of straw.¹⁵⁶ The people raise maize, kidney-beans, watermelons, and pumpkins.

There are two other pueblos immediately after this, within the short space of half a league; the other two contain, with slight difference, the same number of huts as this one, and the people raise the same crops.

These observations make clear that the Taovaya towns were favorably situated for agriculture and took full advantage of that situation. It will take later argonauts to expand these impressions, but the Taovaya practiced intensive Type C agriculture and produced large surpluses which they,

¹⁵² Rivers layer, *Oklahoma Gazetteer*.

¹⁵³ It is clear from the multiple versions of the Fragoso journal, as problematized by editor Nasatir 339-340, that several voices come out in the record. As Vial apparently never handed in a journal, it must be assumed that he added to or revised Fragoso's journal; Vial's voice otherwise is never in the foreground in the texts. Since the various journals usually only add data and rarely contradict each other, but for some minor mileage issues, it would seem that the best approach is to take as much information as the various documents contain. The Fernández journal is a much simpler project as it had one writer and the one original text.

¹⁵⁴ From Fragoso 1788, Loomis (1967): 339-340.

¹⁵⁵ Fernández 1788, in Loomis (1967): 322.

¹⁵⁶ This contrasts with Mares' count of 23, 40 and 27 lodges. Mares; in Loomis (1967): 296.

processed, stored, and traded. George Catlin would later paint these fields which were both extensive and fenced in. Quich then possessed all the attributes of an agricardo.

Fernández Return: July, August 1788.

Once Santiago Fernández's assignment to escort Vial to the Taovaya towns was completed, the cavalryman left the Red River towns on July 24 to return to Santa Fe. He was accompanied by the Comanche Sofias. Fernández wasted no time returning, and started by following a route familiar to him, making some very interesting observations before reaching the *Llano Estacado*. He avoided the waterless *Llano* in August, preferring to skirt the breaks to the Canadian River, like Vial's 1787 route. This was a good strategy because of his quick transit time and the lack of extended layovers to recuperate horses all other expeditions required.¹⁵⁷

¹⁵⁷ His return trip over 23 days averaged 33 miles per day.

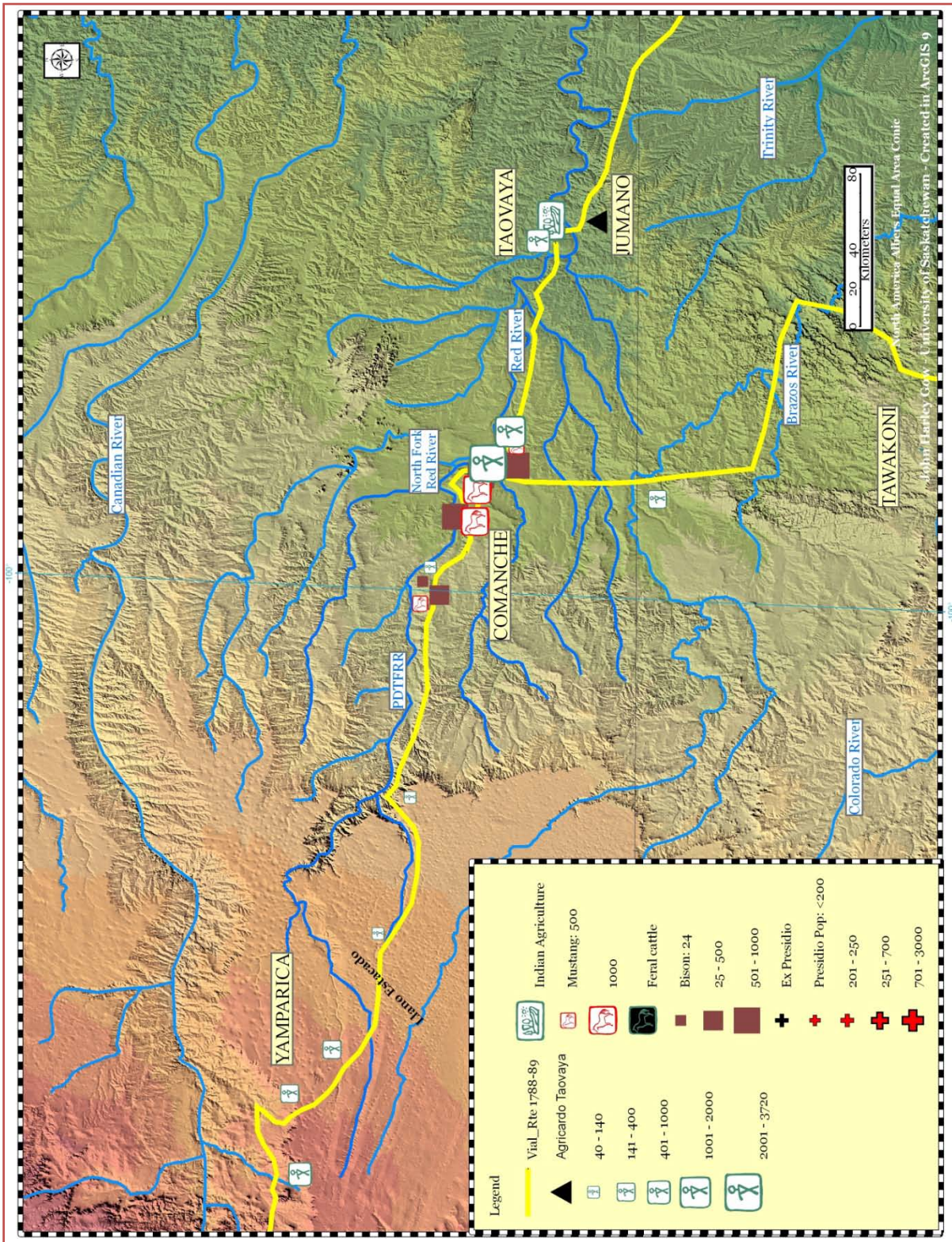


Figure 7.13. Llano to Quich.

Fernández returned on 26 July to the Comanche camp where they had left their horses on 16 July [Point 21]. “[L]eaving the animals they had loaned us and taking our own” they headed west with a Jumano and Comanche, each with his wife.¹⁵⁸ Sofias remained at his camp.¹⁵⁹ On the 29th, travelling west across a plain Fernández reported “meeting many mustangs, buffalo herds, and antelopes, until we arrived at a river with little timber” [Point 90].¹⁶⁰ This is the first record of mustangs in the Study Area. On the 30th they passed a large salt river running to the south [91],¹⁶¹ and arrived at a stream of good water on “another plain with many herds of game and horses [92]. On the 31st they descended again to the Río Blanco, and following a ridge, “without ceasing to encounter cattle [bison] and horses,” they stopped on the river [93].¹⁶² Given the description of game, it would be tempting to think that they were on the north side of the *PDT Fork*, but for the fact the log is clear on them keeping the river to their right or north side. On the 1st August, they passed into “bad country” and the mentions of horses and bison stop, replaced by mentions of canyons, mesquite, and, on the 4th, mesas and “a large plain”, likely the western escarpment of the *Llano* [6].¹⁶³

These observations beg the ultimately unanswerable question as to why they did not report these animals on the way out a few weeks previously. Regardless, these reports of masses of bison, antelope and other game, and of wild horses help to explain the presence of hundreds of lodges of Comanche from the *Llano* to the Taovaya towns.

August 1788, Taovaya to Natchitoches.

Meanwhile journalist Fragoso, in company with Vial, pressed on to Natchitoches from the Taovaya villages, passing through the southeastern corner of the Study Area. The first few days of travel reiterates the special environmental location of Quich. Immediately after crossing the Red River, they entered a forest of “heavy oak” surrounded east and west by “beautiful and

¹⁵⁸ One of the exceedingly rare mentions of women in these texts.

¹⁵⁹ Fernández 1788, in Loomis (1967): 323.

¹⁶⁰ Fernández 1788, in Loomis (1967): 323. This relationship between grazing land and the triumvirate of bison, antelope, and mustangs would also be reported by Pike and other travelers. Here it is impossible to say what sort of browse attracted this crowd. Guessing from the text and the terrain it would be mixed grass prairies around the many “wooded hilltops” and streams he was crossing or skirting.

¹⁶¹ Salt Fork Red River.

¹⁶² Fernández 1788, in Loomis (1967): 324.

¹⁶³ From Fernández 1788, in Loomis (1967): 324.

extensive Plain[s].”¹⁶⁴ After crossing a plain of some few leagues they entered another oak forest, “they say is more than 200 leagues long and only 3 wide,” now known as the Post Oak Belt. They stopped there three days, because of their animals [42]. Perhaps this is an indication that the Taovaya/Comanche herds had stressed the grazing around the towns.

On the 31st ¹⁶⁵ they reached the Trinity River, already named and indicative of the Spanish familiarity of the Natchitoches to Taovaya town trade [44].¹⁶⁶ They ran into rains so heavy they made only 10 leagues over the next four days of travel. All the streams were running high, and their route of travel and description show that they were on the cusp of the Trinity/Red River drainages: “We passed two...streams; one runs to the north and the other to the southwest.”¹⁶⁷ Of interest is the total absence of aboriginal presence, in stark contrast to Taovaya town approaches from the west and southwest. This absence persisted over many days and leagues of travel until they reach the Sabine River crossing, a distance of over two hundred miles.

From the Taovaya towns to the upper reaches of the Sabine River, already named by the Spanish from Natchitoches, they passed through bands of forest known as the *Post Oak Belt* which they named “Monte Grande”, or “Great Forest.” This region marked then as now the easternmost limits of the great prairie. This growth stopped above the Sabine River at the southern end of the “Forest of Natchitoches” [45]. From the Sabine River to Natchitoches they traversed the now *Piney Woods*; “Forest of Natchitoches” to them.

From July 30th to August 5th they were stopped or slowed by heavy continuous rains that swelled creeks and rivers [42-45]. Until August 12 they paralleled the Sabine, and here they report the first aboriginals since leaving the Taovaya towns, the Nadaco pueblo [51].¹⁶⁸ Along

¹⁶⁴ Fragoso 1788, Loomis (1967): 340. The prairie is the Blackland Prairie, composed of “grama, bluestem, and shorter buffalo grasses,” prime grazing for bison and horses. “Native Plant-Life Regions,” in A. Ray Stephens, and William M. Holmes, eds., *Historical Atlas of Texas*, (Norman: University of Oklahoma Press, 1989): 6.

¹⁶⁵ Sic, “Thursday, 13”, in the text.

¹⁶⁶ That the river is called Trinity reflects this foreknowledge. The name can only spring from Spanish familiarity with the three very definite source arms below the Red River.

¹⁶⁷ Fragoso 1788, Loomis (1967): 342.

¹⁶⁸ This is apparently the first mention of the ‘Nadaco’ [Andarko] in relation to a specific location. A branch of the Hasinai Caddoans, that they are dignified with the term *pueblo* means they had an identifiable town as opposed to a camp; they had been missionized circa 1716. Herbert Bolton, *The Hasinai: Southern Caddoans as seen by the earliest Europeans*, Russell M. Magnaghi, ed. (Norman:

the Sabine they found heavy growths of cane, the first mentioned, alligators and generally swampy conditions. After re-crossing the Sabine from the west to the east, they encountered the second and last aboriginal group before Natchitoches. The “Vidai” [Bidai] rancho was in an idyllic setting, but lacked the population to be termed a pueblo.¹⁶⁹

On the 26th of August they reached the Natchitoches after covering, “127 ½...Leagues from Jumanos,”¹⁷⁰ or 380 miles [55]. The measure tool shows an ‘as the crow flies’ distance of 320 miles, meaning they took a very direct route. Natchitoches was a bustling place in 1778, being both a “large fort” with a “large settlement” on either side of the *Red River*, with

a great number of large and small canoes in which the natives [trade with] New Orleans. Its population numbers some 2,700 to 3,000 persons of both sexes of French and English nations, with some Negroes [with] little wealth...part of them—with whom this population abounds—reduced to servitude and slavery.¹⁷¹

Fragoso’s description of Natchitoches reveals a thriving and ecumenical euramerican town just 200 miles [320km] from the southeast reaches of the Study Area. Their deposition to Spanish Natchitoches commandant Don Luis Blanco [Louis de Blanc] resulted in this précis of the political value of the Taovaya towns.

Santa Fe to Natchitoches is easy to make in 40 days with loads, in spring and autumn.

But from here to the Taovayas, the savage nations can cause some damage...with an escort of twenty-five men, the trip can be made without any trouble or risk.

If for the royal service...to send aid from here to New Mexico, it is indispensable to establish a post in the Taovaya villages with a good garrison...to protect the road and to stop contrabanding from the Arkansans and White rivers, because...many Englishmen in Arkansas...traded rifles, powder, balls, and other arms to the Indians.¹⁷²

Additionally, Blanc reported to his superiors in Havana that the Taovaya had a “fine country” that provided bison, boars, deer, fish, beaver and otters, and that they grew “corn,

University of Oklahoma Press, 2002): 49. This group would soon be forced to move, first to the Brazos, eventually to *Oklahoma/Indian Territory*, where they persist to the present day.

¹⁶⁹ Another Caddoan group, now ‘extinct’. They had a long recorded history, from 1691, as agriculturalists and traders. The Bidai were middlemen in the gun trade between French traders and the Apache. Scourged by disease, they disappeared into *Indian Territory* in the 1850s. Thomas, N. Campbell, “Bidai Indians,” *The Handbook of Texas Online*, <http://www.tshaonline.org/index.html>. Accessed January 25, 2010.

¹⁷⁰ Fragoso 1788, Loomis (1967): 347.

¹⁷¹ Fragoso 1788, Loomis (1967): 348.

¹⁷² Louis de Blanc. “Letter to Commandant..., August 26, 1788.” Loomis (1967): 350.

beans, squashes, melons,” all identifiable resources and foodstuffs. Strangely, horses were not mentioned.

Natchitoches, to Béxar , to Santa Fe

Vial set out west on 30 August, 1788, after an apparently monumental party.¹⁷³ This part of Tejas was intermittently settled by the Spanish, and they daily passed some existing or abandoned presidio.¹⁷⁴ On 3 September after some forty leagues they reached the Spanish town Nacogdoches [56];

situated in the midst of a forest of different kinds of tree [with] dwellings made of wood. The lieutenant of the governor of...Béxar [Gil Ybarbo], lives here. The number of the houses must be 80 or 90, and of inhabitants from 200 to 250 Spaniards and Frenchmen. Here all of us except Dn. Pedro Vial were attacked by chills and fever, from which we suffered until the twenty-third of October[.]¹⁷⁵

Apart from the town details, it is their illness that is here of most interest. In 1785 it was Vial who was sick for weeks, and pitched head-first from his horse; here he appears to be immune to this ailment that otherwise struck them all. Editor Nasatir opined that they had malaria,¹⁷⁶ and this is a possibility, except that they all came down with it at the same time. They could have all been bitten by malaria-carrying mosquitoes at Natchitoches, and here become ill at the same time; this seems unlikely. More likely they had some communicable illness that Vial had been exposed to two years earlier.¹⁷⁷ Both dysentery and malaria were endemic to these lowlands.¹⁷⁸ Whatever the illness, it cost them three weeks of travel.

They set out from Nacogdoches October 24 and made four leagues, stopping at “EL Loco, a well-known place”, a road side tavern?¹⁷⁹ They passed through bands of forest making easy progress because the rivers were “low in water.” On the 28th they stopped on the Trinity

¹⁷³ Nasatir, in Loomis (1967): 348.

¹⁷⁴ For example, on 28 October they crossed the Trinity River, “on which was the settlement of Nacogdoches [Bucareli, now abandoned].” Frago 1788, Loomis (1967): 354. The Spanish abandoned this town in the face of Comanche attacks in 1779. David LaVere and Katia Campbell, editors and translators, “An Expedition to the Kichai: The Journal of Francois Grappe, September 24, 1783,” 58-78, *Southwestern Historical Quarterly* (98: 1, 1994): 60.

¹⁷⁵ Frago 1788, Loomis (1967): 353.

¹⁷⁶ Nasatir, in text, at Loomis (1967): 357.

¹⁷⁷ We know smallpox was not the culprit from Vial 1785.

¹⁷⁸ David A. Dary, *Frontier Medicine: From the Atlantic to the Pacific, 1492-1941*, (New York: Alfred A. Knopf, 2008): 53.

¹⁷⁹ Frago 1788, Loomis (1967): 354.

River [57] at the site of the site of Bucareli, now abandoned.¹⁸⁰ Despite these abandoned towns, they noted that the countryside was “inhabited and wooded” near places like Corpus Christi on the Brazos [58]. It appears that Spanish settlement projects had been generally unsuccessful but that individual settlers persisted. Presumably these were a mix of Spanish and French. Also notable is the complete absence of Indian presence from the environs of Natchitoches to Béxar. Beginning November 13 they began to encounter outlier settlements some 70 miles from Bexar, where they arrived 18 November, 1788 [60].

Béxar had a population of “700 Spanish persons” with five missions, and “a moderate amount of trade among the citizens in food and clothing.”¹⁸¹ It was a very different place than the bustling Natchitoches. All the argonauts but Vial remained sick until “the twenty-fourth of June [1789], the evening of our return” to Santa Fe. They would leave with a military escort and an extensive “value of goods” meant for “the Comanche Indians.” Vial was ‘given’ six horses and four mules to transport the goods, including cloth, tobacco, flags, and beads. No powder, balls, or guns were sent to the Comanche, which helps account for their continued attachment to the French trade. Tejas Governor Cabello admitted that all of the trade goods, and the expedition’s supplies, “come from New Orleans...because of the total lack of them in this province[.]”¹⁸² The department of Tejas was still woefully underdeveloped in contrast to French Louisiana in 1789, and the Comanche were the primary political concern of the Béxar Spanish at that time.

Vial’s route back to Santa Fe in company with Fragoso gives us some key details regarding the changing nature of the southwest corner of the Study Area. On June 25th they set out with “four Comanches as guides,” and proceeded without incident to the Guadalupe River [62]. On July 3 they reached the Pedernales River, where they reported “many herds of cattle and bands of mustangs.”¹⁸³ These are observations that Vial did not make three years previously, probably reflecting more on Vial’s limits as a journalist, than on actualities. This is the first mention of cattle, meaning feral longhorns as opposed to bison, made by any argonaut to date. The bands of horses indicate that Indian raiding and the various failed Spanish enterprises

¹⁸⁰ Fragoso 1788, Loomis (1967): 354, *n* 58. Sporadically occupied since 1760s

¹⁸¹ Fragoso 1788, Loomis (1967): 356.

¹⁸² Domingo Cabello, “Note 2” to the Fragoso diary. Fragoso 1788, Loomis (1967): 360.

¹⁸³ Fragoso 1788, Loomis (1967): 362.

all around this area had produced many feral animals by the 1780s; this location [63] is only 60 miles from Béxar. These rivers were “swollen,” again indicating heavy rainfall in late June. They reached and crossed the Colorado River on July 4, where their military escort returned to Béxar. Vial in company with the four Comanche guides would follow the Colorado for several days, slowed by heavy rains from July 7-12.¹⁸⁴

On July 13 they met a raiding party of “17 Comanches—strapping youths without a chief, who were going on a campaign against the Lipan Apaches”.¹⁸⁵ One of Vial’s Comanche guides defected to go with them. Both Comanches and Spaniards avoided the Edwards Plateau and southern *Llano Estacado* in these years [66]. Both groups carefully avoided an arc around the base of these highlands that added minimally some 150 miles to their route. Much of this added distance was through difficult and broken terrain.¹⁸⁶ Avoiding the *Llano* both in summer and winter seems insufficient grounds. The Colorado River above Béxar would have taken them to within 90 miles of the known Comanche camps on the Tierra Blanca, and would have shaved at least a hundred miles from the trip. In these years the highlands were in the firm grasp of the Lipan Apache; the Béxar Spaniards’ oftentimes foe, and the Comanche’s eternal enemy.

On the 15th of July they stopped “among the Jumanos,” but gave no details [67]. If this was the ‘remote’ Jumano village encountered by Vial in December 1786, it had now moved some 80 miles south along the Brazos. Since they would follow the Brazos to its northernmost apex from here and find no other villages, it may be assumed these Jumano/Taovaya moved for either environmental reasons such as grazing and cropland rotation or security issues. Having reached the upper Brazos, they now made a familiar trek back to the Comanche camps on the Tierra Blanca River by crossing the Wichita and Pease Rivers, then following the *PDTFRR* onto the llano yielding no new information but for one important instance of naming.

On 2 August 1789, “at the foot of the mesa”, the *Caprock*, they met a Comanche who told them of “a lake that is in the middle of the Llano” where they would find a Comanche camp. This is an interesting development in that it was a Comanche speaking, and this is the first usage of the term “el Llano”, or “The Plain”, so far encountered. This is the first time in the Vial texts that the place has been named; to this point *plano*, *llano*, *llanura*, et cetera, have been used as

¹⁸⁴ Fragoso 1788, Loomis (1967): 363.

¹⁸⁵ Fragoso 1788, Loomis (1967): 363.

¹⁸⁶ For one example, “bad wooded country with much rock”, July 16+

descriptors, the place was never dignified with a proper noun. The signifier *Llano Estacado* was not used by the Spanish as late as 1787.

August 4, they found the “lake and the lodge of the Comanche previously mentioned,” who turned out to be Ecueraçapa, or “Chief Malla.”¹⁸⁷ In keeping with the rushed pace of the journal at this stage, no detail is given of this camp [73]. However, Ecueraçapa called back some thirteen of his people who had just been sent to trade at Santa Fe, and pledged them to escort Vial. With this information, this penultimate Vial journal comes to a close with the brief summation:

In order that I may be able to advance the royal service of his Majesty, I say that the country of this entire trip is filled with many herds of buffalo, wild cattle [longhorns], mustangs, *bacuno* [feral cattle?], alzado [‘wild-tall’, elk?], deers of various kinds, prairie chickens and other fowls, as well as nuts and wild fruits that are very convenient for travelers.

Villa of Santa Fe, August 20, 1789

Pedro Vial

Franco Xavier Fragoſo¹⁸⁸

At the request of the Governor, Vial produced the following map of the Santa Fe–Natchitoches route. This map is a very literal response to that request, for it shows the route as a straight line or highway with the various rivers and aboriginal towns as way-points. In stark contrast to his previous map showing the macro scale Plains geography, this details a route of march, and has more in common with indigenous maps than with cartographic conventions. It says almost nothing about real-world geography, but as a practical navigational aid *Mappa Del Territorio* could have been very useful indeed. An argonaut untutored in using instruments could still follow this route from place to place, from one presidio to the next (Fig. 7.14). Notice that the Red River below the Taovaya towns takes a meandering and naturalistic path, whereas above the towns it follows straight lines and right angles. This reflects its purpose as a pragmatic navigational aid. The point was to demonstrate the line from marker (generally a stream) to marker, not represent meanders. An excerpt from this map is magnified below for the purposes of placing the Taovaya villages in geographical environmental context (Fig. 7.15).

¹⁸⁷ Fragoſo 1788, Loomis (1967): 366.

¹⁸⁸ Fragoſo 1788, Loomis (1967): 367.



Figure 7.14. Mappa del territorio. Pedro Vial, and unk. *Mappa del territorio compriendo entre la provincia de Nuevo México y el fuerte de Natchitoches y Texas*. Archivo General de Indias: Estante 86, cajon 6, leg.9: Año 1789.

north bank. These towns are styled, “Pueblos y los Jumaes”, or towns of the Jumano. This marks a continuity of the Spanish idea of the Wichita/Taovaya as the Painted Indians/Jumanos dating back to Coronado. Again, dignifying the towns as *pueblos* was a distinction reserved for well-organized agglomerations such as Santa Fe and Natchitoches.

This map has high value environmentally, for it shows the relation of the Taovaya towns to its surroundings. The towns are located between two bands of forest, and surrounded by great stretches of plains. *The Little Wichita* / “Rio de Vermellón” enters the Red from the south, just before *Beaver Creek* / “Rio Dolores” enters from the north. To the east of the towns on the road are the three arms of the Trinity River, the “Sn. Juan”, “Trinidad [Trinity]”, and “Negro.”¹⁸⁹ Note that the map shows these rivers rising below the *Red River*. This locates the towns precisely. “Monte Grand”, the great forest, or *Cross Timbers* is drawn in as its extent related to the journey. Unsurprisingly a spring just to the east of Monte Grand is named “El Venado”, or the deer.

¹⁸⁹ As with the Brazos River, Trinity reveals that the Spanish knew these rivers from source downriver, since you would not know about the two or three upper arms from the coastal plains.

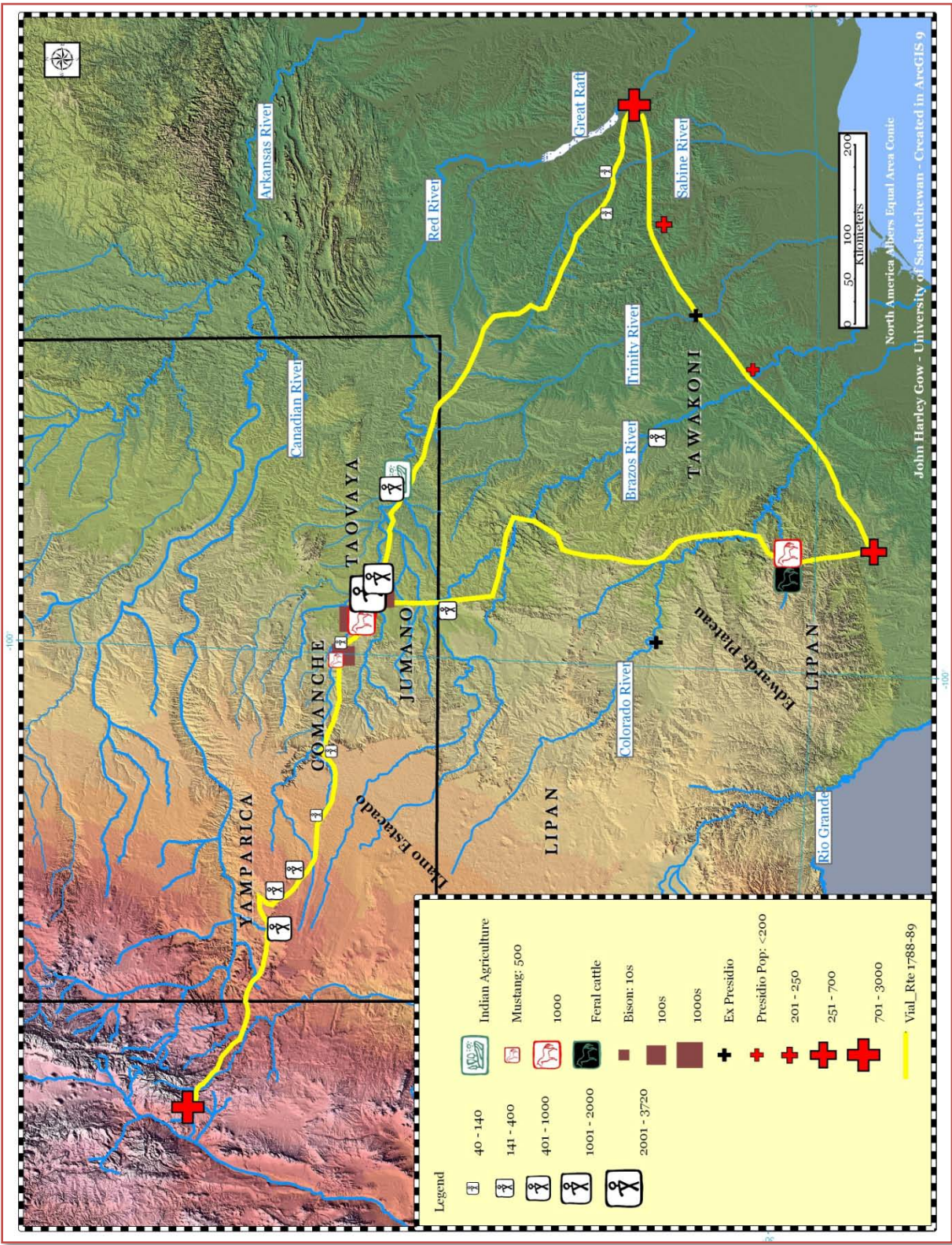


Figure 7.16. Vial 1788-89 Data.

In theory, this Vial expedition opened a viable direct trade route from Santa Fe to Natchitoches, opening the Southwest to the outside world and placing the southern limits of the Study Area within the Spanish orbit. In reality the Study Area remained forever outside any Spanish hegemony, and in fact Vial was but one more failure to secure Texas above the Gulf plains. This was not the fault of Vial's route, but rather a function of the *Realpolitik* of the aboriginal–environmental Southern Plains. Spanish pretensions to the southern limits of the Study Area would never eclipse the reality of Apache and Comanche occupation.

The Taovaya agricardo marked a precise mid-way point between the multitudinous Comanche and Taovaya populations and the strangely unpopulated eastern and southern plains of Tejas in the late 1780s. These towns reveal their importance, even if that was a mystery to editor Nasatir; “It is interesting to observe that three small villages of seventeen huts apiece ... were so important for so many years in the Spanish Southwest.”¹⁹⁰ As later argonauts would show, these “huts” were actually substantial structures holding many individuals, and were surrounded by fields of crops. Fernández identified these “small villages” as pueblos, the same language the Spanish used to describe their own towns. The tendency of the argonauts to understate almost everything, environmental and human, is partly responsible for this understatement.

Of particular interest is the near total extirpation of aboriginal presence from the southeast corner of the Study Area. This HGIS mapping confirms Pedro Vial's mention of the great smallpox epidemic of 1779-81 and its decimating impact on the eastern Comanche, and presumably, other eastern plains groups such as the Taovaya, in contrast to Yamparica populations in the west. Some of Nasatir's mystification over the importance of the Taovaya might well be because their population had recently been decimated by smallpox.

That the Taovaya faced continual raids by the Apache and Osage for horses meant that they had many horses, even though this is not stated in the journals. The fact they were able to maintain permanent townsites and horse stocks that were worth travelling hundreds of miles to trade for or steal meant that the towns were surrounded by vast amounts of good grazing. This is made even clearer by the existence within some fifty miles of a huge Comanche camp and another known Taovaya town on the Brazos.

¹⁹⁰ Nasatir, in text, at Loomis (1967): 322.

Taovaya grew the ‘three sisters’, corn, beans and squash, and did so for decades in roughly the same location. Presumably the garden sites and townsites shifted up and down along the Red River to allow agricultural plots to recover. The towns were located on a verdant plain that was bordered by forests to the south and east, and there was potable water available in every direction. The site encompassed several ecotones¹⁹¹, and the Taovaya took advantage of of these. Firstly the meadows and bottoms along the Red River, then as now, were favorable for agriculture, and the winding, flooding nature of this river means those lands would be frequently replenished with nutrients.¹⁹² Additionally, and key to understanding all human-environmental interactions, was the presence in every observed direction of bison; the biotic and economic engine fuel of the Study Area. The Vial map and the suggest the presence of other species such as deer, pronghorn, and elk taking advantage of these environs.

Horses were the proven trade commodity of the Taovaya and Comanche complex at Quich. Horses allowed for the extraordinary distances travelled, often thirty miles per diem. Horses also forced routes and schedule adjustments. All expeditions were forced to accommodate their stock, from swapping animals (Fernández return), to regular multi-day stops to allow the animals to recover.

Perhaps the most frustrating and rewarding aspect of Fragoso’s journal is this one-sentence recapitulation of the journey from Santa Fe to Natchitoches:

I inform that from the ford called De Pecos [Point 2] there is an abundance of buffalo, deer, *astadas*¹⁹³, sheep, partridges, quail, and turkeys, and many horses as far as the Great Forest [Point 40].¹⁹⁴

¹⁹¹ Ecotones: “Narrow and fairly sharply defined transition zone between two or more different [biotic] communities ... typically species rich. Ecotones arise naturally, e.g. at land-water interfaces, but ... may often reflect human intervention,” such as agricultural and grazing pursuits, both of which the Taovaya extensively employed. Allanby (2004[1998]). Fire management is also critical to ecotone maintenance and creation.

¹⁹² The junction of the Wichita and Red is a notoriously bad place for fixing borders as the frequent “INDEF BDY”, Indefinite Boundary, markers reveal. Properties sometimes shift states after a good flood. The Red here oxbows back and forth across a broad valley, and the mouth of the Wichita has shifted downriver by as much as five or ten miles in ‘recent’ times. DeLorme, *Oklahoma Atlas & Gazetteer*, (Yarmouth ME: DeLorme, 2006): 60-61.

¹⁹³ Editor Nasatir makes this out to be ‘crawfish?’, but more likely is that the word meant ‘horned’ and referred to a horned animal not named in this list. Since deer and antelope tended to be conflated under ‘deer’ and antelope are not horned, possibly, ‘elk’ would complete the list of “buffalo, deer, _____, sheep...”

¹⁹⁴ Fragoso 1788, Loomis (1967): 347.

It explains why the argonauts rarely mentioned food; it was an anomaly for them not to have fresh meat at easy reach. Why mention bison when you are surrounded by them almost every day? That they similarly rarely mentioned mustangs en route means roughly the same. Again, the text and maps suggest they were never removed from game, adequate grazing for their horses, potable water, and wood for fires. They reported neither despoblado nor desert.

The impact of French trade cannot be underestimated. The reason the Study Area groups preferred to trade with the French was simple; they consistently offered twice the payment for furs that the Spanish offered, and they traded firearms to groups that the Spanish would not. The journal of Francis Grappe details a Spanish military exercise under “Gil-y-Barvo”, Gil Ybarbo; a Spanish effort to dissuade Kichai Indians¹⁹⁵ from trading with the French.¹⁹⁶ Ybarbo asked why the Kichai traded with the ‘enemy’ French and was told;

because he [French trader Laffitte] gave them ten musketballs and that the others [Spanish] gave them only five, that when they went to his house they ate as much as they wished, that he treated them well, and that there had been only him to help when all goods were so scarce.

When Ybarbo threatened to arrest Laffitte and impose the five musketballs exchange rate, a Kichai warrior said that Ybarbo “was a liar” who could not

send any Frenchman to town with his hands and feet shackled in their presence, because [the Kichai] would fight until they had all been destroyed [to...] defend the French traders[.] That they had always traded with the French...and that they wouldn’t trade with [the Spanish] under any pretext.¹⁹⁷

An environmental cause of this economic-political complex was the Great Raft of the Red River. Natchitoches came to be a thriving trade centre in 1788 because of this Great Raft; recall Vial’s description above of many boats and canoes at Natchitoches. Commencing just above the townsite of Natchitoches, the raft was a massive river blockage that then extended a hundred and fifty miles upriver at its apogee in the 1830s.¹⁹⁸ Its origins disputed but ancient, the

¹⁹⁵ The Kichai were another Caddoan-speaking group who lived on the Red River at and below the great Bend of that river to just above Natchitoches. In 1783 they were faced with relentless raiding from the Osage, whose aggression likely decreased Kichai numbers by fifty per cent.

¹⁹⁶ LaVere (1994): 58-78. Ybarbo was that then rare creature, an American born Hispanic who rose to become Lt. governor of east Tejas.

¹⁹⁷ Grappe [1783]; 75.

¹⁹⁸ The raft was apparently growing ‘like Topsy’ in the early 1800s. Dan Flores noted the Peter Custis journals showed the remarkable growth of the raft which created Caddo Lake in the early 1800s. Dan L.

raft consisted of millions of uprooted and fallen trees that came to constitute a massive beaver dam. As the lower end slowly decayed away, the upper end increased exponentially. The Great Raft begat the Great Swamp as the annual floods of the Red River fought around this massive blockage. Natchitoches would be the gateway and port to the central plains until the Great Raft was cleared by American engineers during the 19th century.¹⁹⁹

The import of the Taovaya towns as an agrircardo, and of the Taovaya/Wichita as trade middle men was a key component of the South Plains political economy. The lower Red was blocked by the Great Raft and Spanish presence, and all of the rivers south of the Study Area flow south to the Gulf through Spanish territory. While the Spanish had to resort to trading firearms to Indians near Natchitoches to combat French influence, that situation did not exist on the upper Red where Comanche and Taovaya dominance kept the Spanish at bay. At Quich French traders out of Arkansas Post freely plied their trade in to the 1780s. Supported by their agricultural base the Taovaya raised and traded foodtuffs and horses, as well as captives, and maintained their position through their military alliance with the Comanche. Euramericans from all over the Southwest were drawn to this place which had existed here for likely hundreds of years and would persist into the early 1800s.

Pedro Vial: 1792-1793

By 1789, concerned with French machinations “towards New Orleans and Mexico,” and increased American activity along the Mississippi, New Mexican officials considered opening a trade highway to St. Louis. This idea and route would in a half century coalesce as the *Santa Fe Trail*. A lingering concern for the Spanish, who somewhat incredibly still had no grasp of the extent of the Great Plains, was an imminent British invasion “from the British posts on Hudson Bay.”²⁰⁰ A major part of this effort would be directed towards “making friends with the Indians between Santa Fe and St. Louis.”²⁰¹ Who better to send on such a mission than Pedro Vial, with

Flores, ed., *Journal of an Indian Trader: Anthony Glass and the Texas Trading Frontier, 1790-1810*, (College Station: Texas A&M University Press, 1985): 110, n 12.

¹⁹⁹ Clearing the Great Raft caused other problems, namely massive flooding on the lower Red. Removing the Raft greatly lowered the water level causing the river to scour its banks and rush to the Gulf. This problem was solved by re-damming the Red, creating a series of lakes which replaced the Great Swamp.

²⁰⁰ Okah L. Jones Jr., “Spanish penetrations to the north of New Spain,” 7-64 in, John Allen Logan, ed., *North American Exploration: A Continent Defined*, (Lincoln: University of Nebraska Press, 1997): 54.

²⁰¹ Nasatir, Loomis (1967): 369.

his extensive “knowledge...of the barbaric nations that lie between” Santa Fe and the “Fort of Saint Louis,”²⁰² then a Spanish possession.²⁰³

Vial left from Santa Fe on the 21st of May, 1792 with instructions to;

March to the east as far as the villages of the Huagages [Osage] from which point he will continue northeast [to] the Missouri River. By means of the compass that he carries...it will be easy not to make a mistake in the directions cited.

From the Pecos to the villages of the Huagages, it is expected that he will meet no other tribes than our allies, the Comanches, on whose assistance and knowledge he can depend with assurance...he ought not to encounter other tribes from the Osages to the Missouri.

He...will try to keep a diary as accurately as possible, marking in it the courses and daily distances, the rivers that he encounters...the mountains and tablelands...giving names appropriate...the tribes he encounters, the customs they have, and whatever he can learn from them...that may seem...as new knowledge[.]

He shall undertake his return by taking a course to the west [of Saint Louis] passing the settlements of the Pananas [Pawnee], and then south to the Comanches, without the need of approaching the Ricaras [Arikara], and arriving at the Río Napestle [Arkansas River] he will come straight to this [Santa Fe] capital[.]²⁰⁴

These instructions reveal the Spanish had a good idea of the environs around both Santa Fe and Saint Louis in 1792. Their understanding of aboriginal territoriality on the Missouri/Mississippi juncture at the time; the Pawnee, Arikara, Comanche, and Osage, was outstanding.²⁰⁵ However, they had no idea of what lay in between. So, armed with instructions meant to carry the ‘instruments of colonization’ across the plains and through the heart of the Study Area, he departed in company with “two young men...José Vicente Villanueva and Vicente Espinosa,” and six horses.

²⁰² Fernando de la Concha, “Letter to Saint Louis commander, May 21, 1792.” Loomis (1967): 370.

²⁰³ Originally a French mission, circa 1703, the place was established as a settlement / fort by Pierre Laclède in 1765; it was soon declared the French ‘capital’ of northern Louisiana. Laclède’s thirteen year old stepson, Auguste Chouteau was a founder. In 1768 Louisiana was transferred to Spain, to be returned briefly to France in 1800. In 1792 Saint Louis is best thought of as a clutch of small settlements, posts, forts, of perhaps one thousand populace spread along both banks of the Mississippi River at the junction of the Missouri River. Ostensibly Spanish, it was in reality then a French town. The mouth of the Ohio River, French highway to Canada, was 100 miles downstream.

²⁰⁴ Fernando de la Concha, “Instructions to Pedro Vial, May 21, 1792.” Loomis (1967): 372.

²⁰⁵ Presumably this knowledge came from the extensive trade relations of the French traders at Saint Louis who had worked the Osage and Missouri River trade for several decades by 1792.

Unfortunately both for posterity and the Spanish, Vial's journaling was no better than his earliest efforts.²⁰⁶ The compass he took was more hindrance than help, as his directions are nothing but vague. Further, he recorded less environmental information than previously, commenting only on his own recurring illness and a few extreme weather events. On this trip his companions provided no records. Further, there was only a single transit making it nearly impossible to plot specific points. This expedition's plotted route is of a 'best guess' nature based on Vial's scant information. Editor Nasatir strangely had him trekking across the Llano in the early stages, and his reckonings are of little use. Still, several key points can be plotted with some certainty.

²⁰⁶ With apologies to editor Nasatir who noted Vial's new "eloquence" with Spanish expression. Nasatir, in text, Loomis (1967): 376.

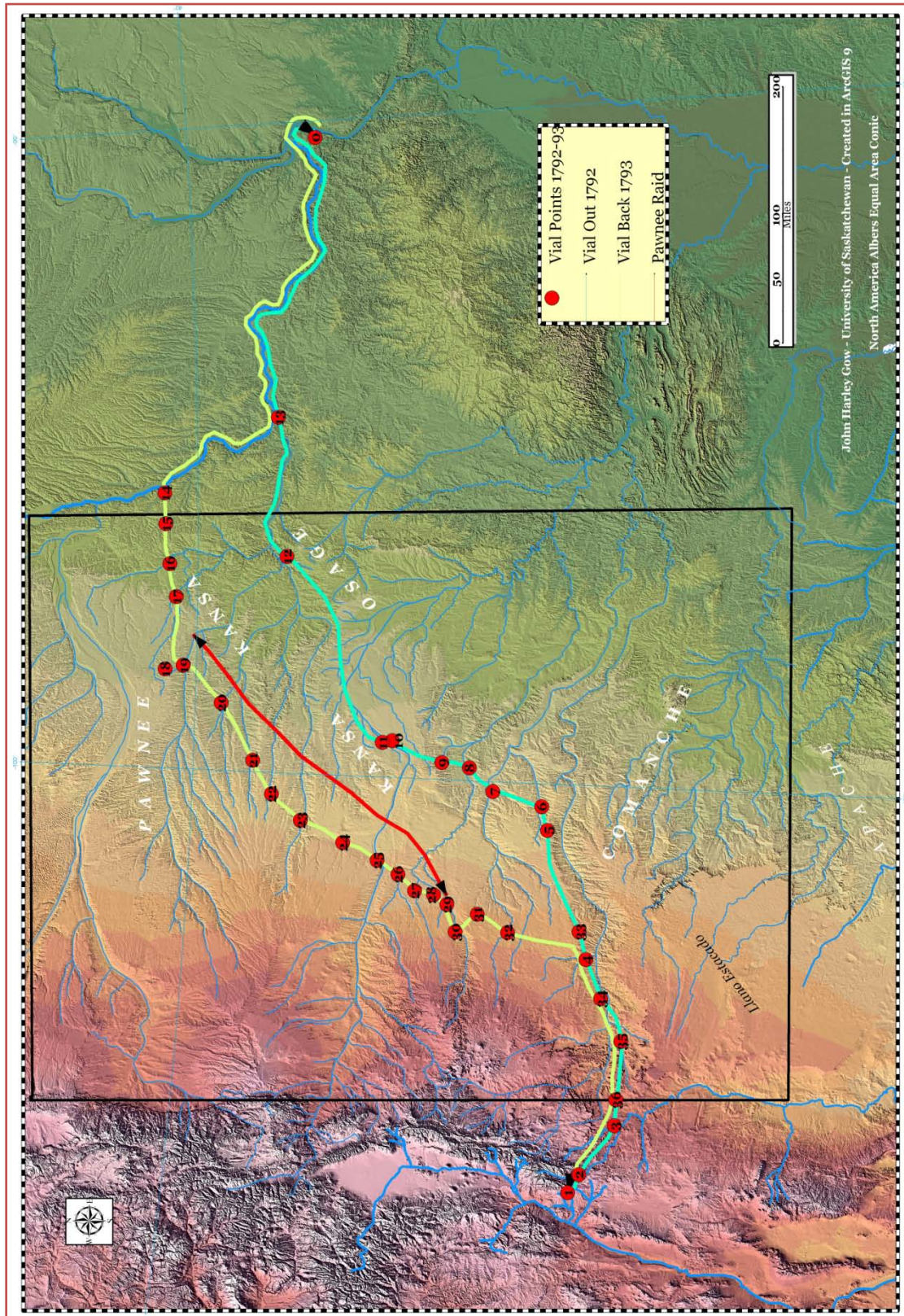


Figure 7.17. Vial 1792-1793.

On 21 May Vial set out on the now well-worn path through Pecos village to the Gallinas. Contrary to editor Nasatir he did not climb the Llano, but rather followed the ‘natural’ route west following what he called the Colorado River, now *Canadian*.²⁰⁷ Heading east he likely crossed the *Canadian* early on. Then he reported on June 3rd striking a “river whose current and volume impeded our crossing it” in order to continue following the *Canadian*. No major streams flow into the *Canadian* from the south, and the most sensible choice is *Punta de Agua / Rita Blanca Creek*. This creek has a watershed of some hundreds of square miles, and given Vial’s reports of “bad weather”, meaning rainstorms, it may well have been formidable [4].²⁰⁸ Crossing the *Punta de Agua* he traveled across “plains and tablelands”, meaning he was on the plains above the river and not in the valley of the *Canadian*.

On the 6th Vial stopped because he “was seriously ill,” and he stayed in this camp until the 17th, when he gingerly renewed his travels. On the 22nd they turned to the north for the first time. The low mileage, 3 leagues per diem, was due to “bad weather”, and crossing streams bearing “great volumes of water”, such as *Wolf Creek* on the 22nd, *Beaver River*²⁰⁹ on the 23rd, *Cimarron River* on the 24th, and *Cavalry Creek* on the 25th.²¹⁰ The “bad weather” often meant they could not travel “until mid-day.” All of these streams were running high in June, 1792. On June 27th they crossed “spacious lands to the Napestle...which is called in French the Arkansas River” [10]. Here they let their horses recover for a day before sheading north east.²¹¹

Within hours of striking the Arkansas River Vial was taken captive by a group of Kansa Indians²¹² he had mistaken for Osage.²¹³ On the 29th they discovered some “buffaloes killed by the Indians,” and went looking for the supposed Osage. The Kansa ‘tricked’ Vial by feigning friendship, but then attacked the small party, likely due to Vial’s disclosure that he “had come from Santa Fe, sent by the great chief, their Spanish father, to open a road from Illinois,” and

²⁰⁷ Editor Nasatir reported that the Canadian River was, and is, called the Colorado within the state of New Mexico. Nasatir, Loomis (1967): n 10, 374.

²⁰⁸ This point figured by route of march, mileage, topography and rivers layers. There is concordance with mileages back to Santa Fe, and forward to the Arkansas River.

²⁰⁹ The Beaver becomes the North Canadian River lower down where the previously crossed Wolf Creek joins it.

²¹⁰ Vial, Loomis (1967): n 10, 374-6.

²¹¹ There is only one place where the Arkansas runs to the northeast, and that is the seventy mile stretch below the apex of the Big Bend.

²¹² The Kansa are a Dhegiha Siouan group, now Kaw or Kansas.

²¹³ He may have been lucky it was not the Osage, known to be prickly with those who traded with their blood enemies, the Comanche.

presumably, the Osage.²¹⁴ The Kansa were at times as belligerent towards the Osage as the Osage were to the Comanche, despite being linguistic relatives.²¹⁵ Vial was saved by a French-speaking Kansa who remembered him from Saint Louis.²¹⁶ The Kansa, allied with French and English traders, took the three argonauts prisoner and “kept [them] naked in that encampment until the 16th of August[.]” That the Kansa were on the Arkansas River is a both surprising and unique and may have reflected some major upheaval in the Study Area’s sociopolitical balance around 1792.²¹⁷ More surprising still was that this group remained *in situ* for six weeks. Since Vial gives no information, it must be presumed they were hunting bison, possibly capturing horses. That they remained undisturbed for several weeks on the Arkansas is remarkable.

Vial also demonstrates what a change had occurred since Coronado (1540), Humana, and Oñate (circa 1600) had visited these parts; where were the Quivarians and the Querecho/Plains Apache. The thousands-strong Apache rancherías and populous Quivara agricultural towns had disappeared in the two centuries since Coronado. They had not been displaced by euramerican settlement, nor broken by euramerican military actions. Disease, climate change, and aboriginal migrations and warfare had wrought this change.

Vial was taken fifty leagues in ten days to the Kansa camp on the Kansas River, travelling “on a northeasterly course across broad plains all the way [11].”²¹⁸ Arriving on July 25th, they would remain in the Kansa town until September 11 when an unnamed French trader arrived in a pirogue full of trade goods including “powder...balls...and musket[s]”, with the “permission of the government to trade with that tribe.”²¹⁹ On 16th September, Vial, somehow freed, set out with the French trader in his pirogue for Saint Louis. They arrived October 3,

²¹⁴ Vial’s record of these events is enlightening and extensive, in stark contrast to almost everything else in his journals. Vial, Loomis (1967): n 10, 376-8.

²¹⁵ Modern sources make the two groups out to be close relatives and friendly, but Pike and other sources belie this, at least circa 1800. See Pike, below.

²¹⁶ Vial had an extensive knowledge of the Mississippi / Missouri trade before his experiences with the Comanche and Taovaya. Vial also seems to have been able to speak with the Kansa.

²¹⁷ Editor Nasatir was mystified by Vial’s having been tricked. However both Vial’s pre-knowledge, his written instructions, and later argonaut accounts make clear that it was surprising to find Kansa on the Arkansas.

²¹⁸ Proven site near Manhattan, KS. Junction of Big Blue and Kansas R. Mapping issue: In 1906 a flood moved the junction of these rivers from Manhattan several miles east as the Big Blue cut a fresh channel.

²¹⁹ Vial, Loomis (1967): n 10, 378.

having traveled 260 leagues by river.²²⁰ The banks of the Smokey Hill/Kansas River were now “uninhabited on either shore.” At the confluence of the Kansas and Missouri Rivers he found “two villages, one of Osages and the other of Missouris...deserted because of having been driven away by the Sioux [or Sacs] and Iowas” [12],²²¹ marking the advent of cis-Mississippi Sioux imperialism. The French trader was circumspect as “the Osages...frequently interrupt[ed] navigation and travel on the Missouri River.”²²²

October 3, 1792, Vial arrived in Saint Louis, handed in his journals to commandant Zenon Trudeau, who forwarded them to Governor Baron de Carondelet in New Orleans, both being Frenchmen employed by Spain. It was too late in the year to consider returning across the plains, so Vial and “the two young men who accompanied him” wintered in Saint Louis until June 14, 1793.

Vial was charged on his return trip with bringing peace between the Pawnee and the Comanche, a hopeful if ill-conceived venture. If successful, such a rapprochement would have guaranteed the Spanish a highway from Saint Louis to Santa Fe, and a firm bulwark against American intrusions. He and his two companions were weighted down with trade goods; mostly cloth and dyes, but also six dozen knives and apparently some powder and shot.²²³ They would not re-trace their steps as the Pawnee were on the Republican River, not the Arkansas.²²⁴ This

²²⁰ Vial, Loomis (1967): n 114 and 15, 379. Mapping issue: This distance is flatly impossible if one tries drawing a straight line of travel. Editor Nasatir reckoned Vial “overstates ... about 30 per cent.” However, my work in figuring Pike revealed that these eastern plains rivers have been tamed by channeling and dams that reduce their historic length by at least 50% in some places such as the Bagnell Dam (see Pike, below). Vial’s river trip easily could have been a third longer than figuring a straight line distance.

²²¹ Vial, Loomis (1967): 379.

²²² Vial, Loomis (1967): 379.

²²³ The whole fascinating list, as well as Vial’s recompense is listed at, Loomis (1967): 394-397. A careful reading reveals that most of the useful stuff, including firearms and other weapons, horses, and foodstuffs were intended for the three argonauts and not the Pawnee.

²²⁴ The Pawnee are of the Caddoan language group. The historic groups were horticultural, log and sod house building people organized along matrilineal lines. Associated with the Platte and Republican Rivers, they were plains people long before the advent of the horse. There is much archaeological evidence of their centuries-long tenure along the Republican. Best guess is that the several towns easily numbered 15 000 persons in 1793; they appear to have resisted or avoided European sourced pandemics until the 1830s. See, the ethnological finding aid by Judith Boughter, *The Pawnee Nation: An annotated research bibliography*, (Lanham, Md.: Scarecrow, 2004). David Wishart and Gene Weltfish, among others, have written tragedies about the Pawnee in the modern age. However, a definitive cultural-political history of the Pawnee has yet to be written. HGIS would aid such a study, by focusing upon their pre-historical tenancy and not just their historical decline.

was the first argonaut enterprise across the Platte and the northern limits of the Study Area. They left Saint Louis by pirogue, taking saddles but no horses, and traveled up the Missouri “to the little Nemaha, [14] where I arrived August 24.”²²⁵ The Little Nemaha junction was the long-time site of French trade. The two month trip caused by “strong currents that resulted in the rise of the river”, as well as “the necessary precaution” taken to avoid the “Osages [a] nation at war with most of those around it, and particularly with the Europeans of the settlements of Illinois[.]” This political reality kept Vial from striking out over land. The junction of the Little Nemaha was then the rendezvous “for all the traders who have business with the Panana nation...safe from invasion by the Osages.”²²⁶ Here they waited for their Pawnee escort until September 11. While their mission was to treat with the Pawnee, their route may be best viewed as a strategic avoidance of the Osage nation.

In mid-September they journeyed without incident, and therefore without description, from the Little Nemaha River to the Pawnee town upon the Republican River.²²⁷ On September 19 they reached “a hill of great height which the Indians call Blue Hill.” They slept near a small stream flowing south, and on the 20th they arrived at the Pawnee town of “the chief called Sarisere.”²²⁸ (See **Appendix B**, “Plotting the Republic Pawnee Town.”) The Pawnee, Vial opined;

like the Spaniards a great deal. They make war against the Osages, the Taovayas, and the Comanches. Their allies and neighbors are three other villages of Pawnees, the Maha nation [Omaha, Quapaw], the Otos, and the Kansas. This village must have 300 warriors, while the other villages of Pawnees have 1,000 men [1,300 warriors in total]...those of their allies have about 1,100 [warriors], and that of their enemies, the Osages, 1,000; that of the Taovayas about 400; and that of the Comanches, countless.²²⁹

These figures, given Vial’s in situ experience, make this record an invaluable tool in figuring aboriginal populations in the 1790s. That the Taovaya had only 400 fighters and maintained their presence in the face of enemies with many times that number reinforces their importance as an agricardo and the underlying strength of that construct.

²²⁵ Vial, Loomis (1967): 379.

²²⁶ Panana, Panis, Pari, Parika, et cetera; all variants of Pawnee.

²²⁷ The Republican takes its name from this Pawnee group, so-named by French traders because of their social organization. French argonauts took revolutionary sentiments with them on business trips.

²²⁸ Vial, Loomis (1967): 400.

²²⁹ Vial, Loomis (1967): 400.

Vial went on, giving some key information as to the geopolitical origination of the Study Area, relative to the Republican Pawnee town:

The Pawnees have their towns at a distance of 20 leagues...from one another; the Kansas are about 30 leagues away from them, the Otos about 50...situated on the Platte River, which flows into the Missouri.²³⁰ The Osages are about 60 leagues to the east, located on the banks of the river of their own name, which also flows into the Missouri.

Vial's estimates of distance are astonishingly accurate using the '3-mile league', being within a few miles of the both Osage towns and the Kansa village visited the year before. As always, his compass directions are nearly useless. 'East' for Vial meant anything between NNE and SSE. The Pawnee and their allies, or neutrals, seem to have agreed that distance made good neighbors. Twenty leagues, sixty miles, between groups' towns seems to have been the minimum buffer. Here as elsewhere, river drainages formed the 'natural' boundaries between Plains aboriginal groups.

Vial's offer of peace and friendship, and trade, between the Spanish and the Pawnee was well received. The Pawnee recognized that Vial

had come to open a road between the Spaniards [of Santa Fe and Saint Louis], and he expressed great happiness that the road should be opened. [He said] "Some day I shall go to...my father whom lives in the west; every day I tell my people that the Spaniards are good people, that if not for my father who sends us guns, powder, and balls, and other goods, our enemies would destroy us, and we would be slaves of the other Indians. Let the road be opened...I will send with you two chiefs ... to the Comanches to make peace, that there will be no more war."²³¹

The Spanish were now either willing to deliver or willing to promise to deliver firearms to the faraway Pawnee. Vial noted he "bought ten horses," establishing that the Pawnee had surplus horses in 1793.

On October 4, 1793, Vial in company with his two companions, two unnamed Pawnee chiefs, and several young warriors set out for Santa Fe, all on horse. Their journey was without incident, or without useful environmental observations until the night of 19 October on the Río Arenoso (*Cimarron River*, **30**).²³² Here,

²³⁰ The Platte, already named by French Traders. The meaning from plat, or plate, as a noun, 'flat' as an adjective.

²³¹ Vial, Loomis (1967): 401.

²³² 'Arenoso', meaning sandy river.

at midnight we were attacked by 56 warriors armed with 22 muskets, a blunderbuss, and the rest of them [with] lances and arrows. They beat [Vial's party] thinking we were Comanches [but] did not fire their rifles. They recognized our horses and made an outcry... Then the Indians with me told me not to fire at them, that they were [Pawnee]. There were two chiefs... One of them... told me it was fortunate they had discovered our horses, for if they had not, they would have killed us, thinking we were Comanches.²³³

This establishes a ratio of firearms for the Pawnee, at 1:3 in 1793; Vial never noted firearms among the Comanche. Upon being informed that Vial and the Republican Pawnee were on their way to treat with the Comanche, the “new chiefs” said they were going on to war on the Comanche, “who had already killed [their] relatives.” In the morning Vial's escort returned home, leaving him with his two companions and one boy who wanted to visit his Comanche father, “even though they would kill him.” Vial's great Spanish peace initiative was effectively over.

From the Cimarron, Vial trekked to the “Colorado” (*Canadian River*) on October 25th. Above the *Canadian* they crossed “prairies...without food or water.” The Pawnee boy tried to steal their horses. Once on the *Canadian* they found “good water and plenty of wood,” but pressed on even though their “animals were very footsore.” They finally stopped for a restorative break on October 31st to “kill some buffaloes for food.”²³⁴ It seems most likely that they pressed on until this point because of a lack of food / bison on the *Canadian* plains. From November 2nd they would follow a familiar route along the *Canadian River* through to Santa Fe. November 8th they encountered snow, and it was very cold; they stopped to rescue a “Comanche Indian ... naked, without shoes and without arms, dying from the cold[.]”²³⁵ They took this individual with them to Santa Fe, where they arrived November 15th. From the *Canadian* they averaged only 3-4 leagues per day, contrary to the usual flat out pace of those nearing their destination. Weather, absence of grazing and meat, plus fatigued or lost animals, were all factors in making this expedition so slow.

Having expected Vial back a year before, recognizing the failure of the peace initiative, and faced with the scantiest of journal information, Vial's employer wrote to the viceroy;

²³³ Vial, Loomis (1967): 402.

²³⁴ Vial, Loomis (1967): 404.

²³⁵ Vial, Loomis (1967): 404.

I am remitting to your Excellency a copy of the diary Pedro Vial kept on his round trip from the town of Santa Fe, capital of the province of New Mexico, to Saint Louis, Illinois... in order that your Excellency may inform himself of the events that occurred, of the intermediary nations, of the distance of one to the other point; [Vial] gives no description whatsoever of the country he traveled, and it is desirable that similar explorations be performed by persons of greater intelligence and broader interests.²³⁶

And, with this judgment, Vial's explorations of the Study Area ended, at least until Lewis and Clark stirred the plains into a beehive of euramerican activity in 1805; then the old explorer was again pressed into service.²³⁷

However sketchy Vial's 1792 record, we can take much from what is not reported. We can assume by his rate of travel there was pasturage for his horses. Delays were caused by his recurring illness or bad weather. Given the extended time of travel, they were able to find food at all stops along the way, and this meant game animals were generally present. Nowhere is there any mention of rough travel such as encountered along the Llano Estacado or in the Piney Woods. Neither is there any indication of having to allow for intense heat on the Llano in summer. The primary difference between Vial's northern route and southern ones is then in aboriginal presence. From Tucumcari to Taovaya they encountered groups, often in the hundreds, of Comanche, Taovaya/Wichita, and Tawakoni. On the northern route once past the Gallinas River on the north side of the *Canadian*, they encountered no one until the Arkansas. There was no Comanche presence above the Canadian.

Vial establishes the difference between the Spanish and French models of aboriginal trade. The fur-trading French had no compunctions about putting guns, the tools of the fur trade, in the hands of those who fuelled the entire commercial apparatus both as suppliers of furs and consumers of trade goods. No guns, no furs. The Spanish, pinned to specific locales by their subsistence agricultural and resource extraction economy, had every reason to fear arming the Comanche or Apache as both groups outnumbered the Spanish population of the Borderlands. Given their relative balance of power, the Spanish never armed their erstwhile allies. At various points Spanish agents intimated they would provide guns to aboriginal groups, but I have uncovered no evidence of this actually taking place.

²³⁶ Vial, Loomis (1967): 406.

²³⁷ Vial did visit the Pawnee representing the Spanish at least two or three more times.

Since the first half of his trip had been spent dealing with flooding rivers and layovers because of rain, it is hardly likely that his records contributed to anyone's inclination to label the Great Plains an environmental desert. Missing from Vial's language, unsurprising because of his French background and vast experience of the Plains, is any use of the Hispanic term or *idée*, *despoblado*; neither did he employ the Gallic signifier desert.

The presence of his Kansa captors on the lower bend of the *Arkansas* is best explained as a paramilitary hunting camp. There is no mention of women, which would signify processing bison meat and hides; at any rate this was the wrong time of year. Later sources would reveal that this geography was awash with bison as well as horses, elk and pronghorn, but Vial is of little use in this regard. The extended stay of an all-male camp for a period of several weeks can only mean that there was readily available meat, as well as adequate grazing, wood and water.

Vial reveals that the Padouca presence on and above the Arkansas River was either extirpated 1793. Passing through what had been El Cuartelejo but eighty years before, Vial reported no Apache presence. In fact he reported no permanent aboriginal presence in those lands whatsoever. Both the Kansa and Comanche enterprises involved clearing the upper Arkansas of permanent occupation; it was enough for those groups to have the Arkansas as a *cordon sanitaire* and hunting precinct. The first Americans would report no towns or occupied camps along the Arkansas River in the early 1800s. Recalling that the Padouca apparently never settled directly upon the Arkansas River deepens this mystery. Why did successive preeminent Indian groups not settle in this productive and relatively comfortable valley? One possibility is that the Arkansas was always a frontier between dominant groups, perhaps preserved as a hunting commons because of its demonstrated attractiveness to bison, pronghorn and elk, and later, feral horses. The potable water, plentiful firewood and grazing, combined with the available mass of animal protein likely made the Arkansas valley a resource so valuable no one group could control it. Another guess is that large horse-borne Indian groups were so demonstrably destructive of valuable ecotones they practiced self-regulation to preserve these regions.²³⁸

²³⁸ Pike and Long will reveal that large Comanche camps denuded large areas of grass and, especially in winter, trees even in relatively short tenancies. River valley refuges had been the basis of Plains Indian winter survival strategies for centuries before the advent of the European horse.

Vial confirms that in the 1790s the Pawnee were horse-rich; rich enough to sell ten horses to Vial. Vial's listing of the Pawnee's formidable armaments was in stark contrast to his missing descriptions of any such Comanche/Taovaya arms and confirms the difference between French and Spanish trade with indigenous groups. These Pawnee, in fact, possessed more firepower than any euramerican group had or could bring to bear on the plains at that time. Significantly, the Pawnee never actually fired a round in the brief scuffle even though they were sure they were fighting the hated Comanche, preferring sharp and blunt weapons in the night raid. The Pawnee's wealth in horses combined with this firepower made them a force to be reckoned with.

Geopolitically, Vial's Saint Louis expedition barely reverberated outside Spanish America. Thomas Jefferson began about 1793 trying to organize an American expedition to the plains; perhaps news of Vial's transit had drifted as far as Monticello. Spanish argonauts had from Vaca to Vial generated much knowledge of the Southern Plains which "added more to the wealth of Spanish archives than to the general knowledge of the period."²³⁹ That this knowledge was never circulated to the wider world is emblematic of their colonial system. As Iris Engstrand has written:

If Spain seemed to contribute little...to nineteenth century science, it was not for lack of ideas and worthwhile experiments, but because events at home defeated their ambitious undertakings. The activities of these scientists have only recently become the subject of extensive investigation both in Spain and in the Americas.²⁴⁰

The map "Ydea Topografica..." commissioned by Spanish Governor of Louisiana Carondelet in 1795, and executed by Antoine Soulard, "surveyor-general of Louisana Territory,"²⁴¹ reveals why the Spanish feared British invasion they sent Vial to Saint Louis in 1792 (Figure 7.18). The map shows a Missouri-centric knowledge of the Study Area driven by the nature of the French enterprise, which was the river borne fur trade. From Santa Fe, as far as the Spanish knew, "*L. superior*" was as close as Saint Louis. Vial's expedition of 1792 seemingly had little to add to Spanish / French knowledge of the Study Area. His misuse of the compass and seeming exaggeration of river travel distances would in fact help keep this distorted

²³⁹ Isaac Joslin Cox, "The Louisiana-Texas Frontier," 1-75, *The Quarterly of the Texas State Historical Association* (10:1, 1906): 36.

²⁴⁰ Iris H. W. Engstrand, "Seekers of The "Northern Mystery": European Exploration of California and the Pacific." 78-110. *California History* (76:2/3,1997): 96.

²⁴¹ Paul E. Cohen, *Mapping the West: America's Westward Movement 1524-1890*, (New York: Rizzoli, 2002): 75.

view of the plains alive and well until they were approached from the east by Americans who completely understood the geography of the continent up to the Mississippi.²⁴² The Soulard map is, not incidentally, one of the first to show the correct rising of the Missouri River in the western mountains.²⁴³



²⁴² Discussed above; editor Nasatir was not the only reader of Vial deceived by his river travel distances. This map shows what happens when mapmakers transcribe serpentine travel distances into straight lines; their solution was to stretch the rivers.

²⁴³ This may well be due to Soulard's access to Vial's map of 1788.

Figure 7.18. Soulard Map. Soulard, Antoine. "Ydea Topografica De Los Altos Missisipi Y Del Missouri [1795]." In *Mapping the West: America's Westward Movement 1524-1890*, edited by Paul E. Cohen (New York: Rizzoli, 2002): 75.

Notwithstanding Vial's records, the Soulard map may well have helped in the creation of a desert myth, at least for sharp-eyed contemporaries. Given the relative French/Spanish ignorance of the Study Area, and the tendency of all travelers and mappers to bend the courses of the major rivers from the north to the east, this map shows a "manantial descoriocado" nestled between the Platte River and the Rio del Norte north of Taos. Best translation of manantial descoriocado is, 'where the springs stop'; environmental desert would be a good alternative. This environmental desert appears to be on the western plains just about where Stephen Long's map would place it. However, since the map shows the Platte reaching far to the west of Santa Fe, the geographical meaning of this descriptor is suspect. The chapter on Zebulon Pike will reveal that there is indeed a real environmental desert exactly where Soulard depicted it, on the *Rio Grande* north of Taos. However this desert was well within the *Sangre de Cristo* Mountains, and well west of Long's Great American Desert.

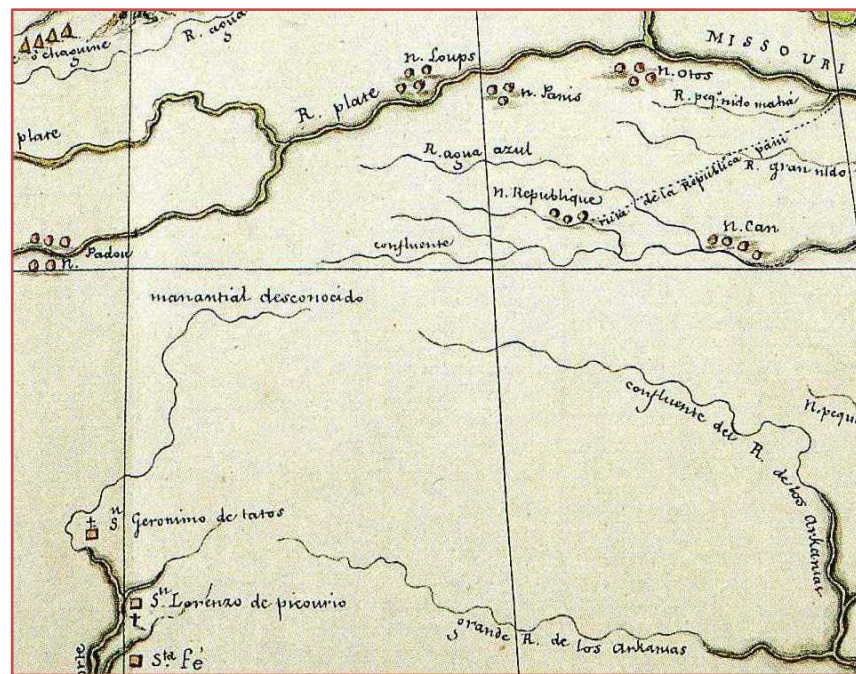


Figure 7.19. Soulard Desert. "Ydea Topografica" crop.

Finally, we have, courtesy of an Elizabeth John edition, an essay on “las provincias del norte de Nueva España” written in 1799 by Spanish military engineer Lieutenant José Cortés.²⁴⁴ Cortés spent three plus years in New Spain, and his writing his most remote personal experience was at Taos. *Report on the Northern Provinces of New Spain* is a document that combines a political overview of the lands surrounding New Spain to the west, north, and east with an anthropological assessment of the aboriginal peoples who lived there. This document is as remarkable as the combined Vial texts, as editor John wrote, because of its sympathetic view of the Apaches as loving

peace, and that their occasional breaches of treaties were both defensible under natural law and fully warranted under rules of conduct employed by the most civilized powers.²⁴⁵

An accompanying map reveals that Cortés possessed the ‘standard’ Spanish geographical understanding of the Plains.²⁴⁶ He showed Texas rivers running due north to south, and “confused the Red and Canadian rivers.”²⁴⁷ While his descriptions of Indians on the Plains must be second hand in nature, he provides valuable direct cultural observations on the Apache. For the purposes of this paper, Cortés summarizes the Spanish understanding of the Study Area just before the Americans arrived.

Spanish hegemony was understood to exist below a line of presidios which included Béxar and Nacogdoches in Texas; “[t]he presidial company of Santa Fe should be considered an advanced post beyond the line whose purpose is to defend as well as possible the province of Nuevo Mexico” situated to the north of the presidial frontier.²⁴⁸ Interesting that in 1799 the Spanish still thought of Santa Fe as being beyond the pale; two centuries of aboriginal resistance, far more than any euramerican action, accounted for this mindset. Defending this frontier were Spanish troops who subsisted on “a bit of toasted corn flour dissolved in water[.]” The Spanish understood that;

²⁴⁴ José Cortés, *Views from the Apache Frontier: Report on the Northern Provinces of New Spain*, Edited by Elizabeth A.H. John, (Norman: University of Oklahoma Press, 1989[1799]).

²⁴⁵ Elizabeth A. H. John, “Editor’s Preface,” Cortés, José (1989[1799]): xiii.

²⁴⁶ This map is reproduced, very badly, in Cortés. Apart from the original in the British library as reported herein, I found no other copy.

²⁴⁷ Elizabeth A. H. John, “Editor’s Introduction,” Cortés, José (1989[1799]): 10.

²⁴⁸ José Cortés (1989[1799]): 25.

Dangers of grave importance...threaten our territories in the northernmost part of America. The nation that encroaches upon us [Britain]...and the one that advances upon us from the other side [America] will not be satisfied [.]²⁴⁹

José Cortés was not clairvoyant, merely an interested observer employed by a sovereign disinterested in science and knowledge and expanding empire. Cortés' fears for "our territories in the northernmost part of America" were well founded, as Thomas Jefferson was already curious about the lands beyond the Mississippi. However, as the American 19th Century began, very little was known of the Trans Mississippi West. For all the Americans knew, it may well have been a great desert.

²⁴⁹ José Cortés (1989[1799]): 35.

CHAPTER 8

“The American Approach to the Great Plains”:

The Region of Fable, 1800-1806.¹

As José Cortés had anticipated in 1799, it would be the Americans, “the one that advances upon us from the other side,”² who would encroach on Spanish aspirations and Indian hegemony in the Study Area. That Cortés was predicting the immediate future and not relating established facts establishes a temporal starting point for examining American activities in the Study Area. Apart from individual fur-trappers and horse-wranglers, there was no American presence in the Study Area prior to 1800. The conjunction of American expansion westward and the election of an expansionist President, Thomas Jefferson in 1800, began the process of opening the TransMississippi West. In fact Jefferson had started that process long before taking office.

As early as 1783 Thomas Jefferson was conspiring to ‘find a way’ to know the “Great West” across the Mississippi, then nominally in Spanish hands. In that year Congressman Jefferson asked George Rogers Clark to consider leading a “privately sponsored expedition to explore the West.”³ As American minister to Paris, Jefferson contracted with John Ledyard who had sailed with Captain James Cook in 1778. Jefferson convinced Ledyard to cross Russia to Kamchatka, sail to Nootka Sound, then cross the mountains, descend the Missouri, and “make his way thence” to Washington. As Webb wrote, that such a plan was even considered illustrates “how formidable a trip overland from the [US] to the Pacific Ocean must have appeared at the

¹ “American Approach” borrowed from Webb’s chapter heading. Webb, W. P. (1981[1931]). “Region of Fable” from Zadok Cramer, text below.

² José Cortés, *Views from the Apache Frontier: Report on the Northern Provinces of New Spain*, Edited by Elizabeth A.H. John, (Norman: University of Oklahoma Press, 1989[1799]): 35.

³ This Clark, a Revolutionary War hero, was the older brother of William Clark. Gary E. Moulton, ed., *The Definitive Journals of Lewis and Clark: From the Ohio to the Vermillion*, 13 vols. Vol. 2, (Lincoln: University of Nebraska Press, 1986): 1.

time.”⁴ In 1792 Jefferson convinced the American Philosophical Society to fund and dispatch “some competent person” to ascend the Missouri to the Pacific; Meriwether Lewis began the mission, but it was called off before he reached the Mississippi.⁵

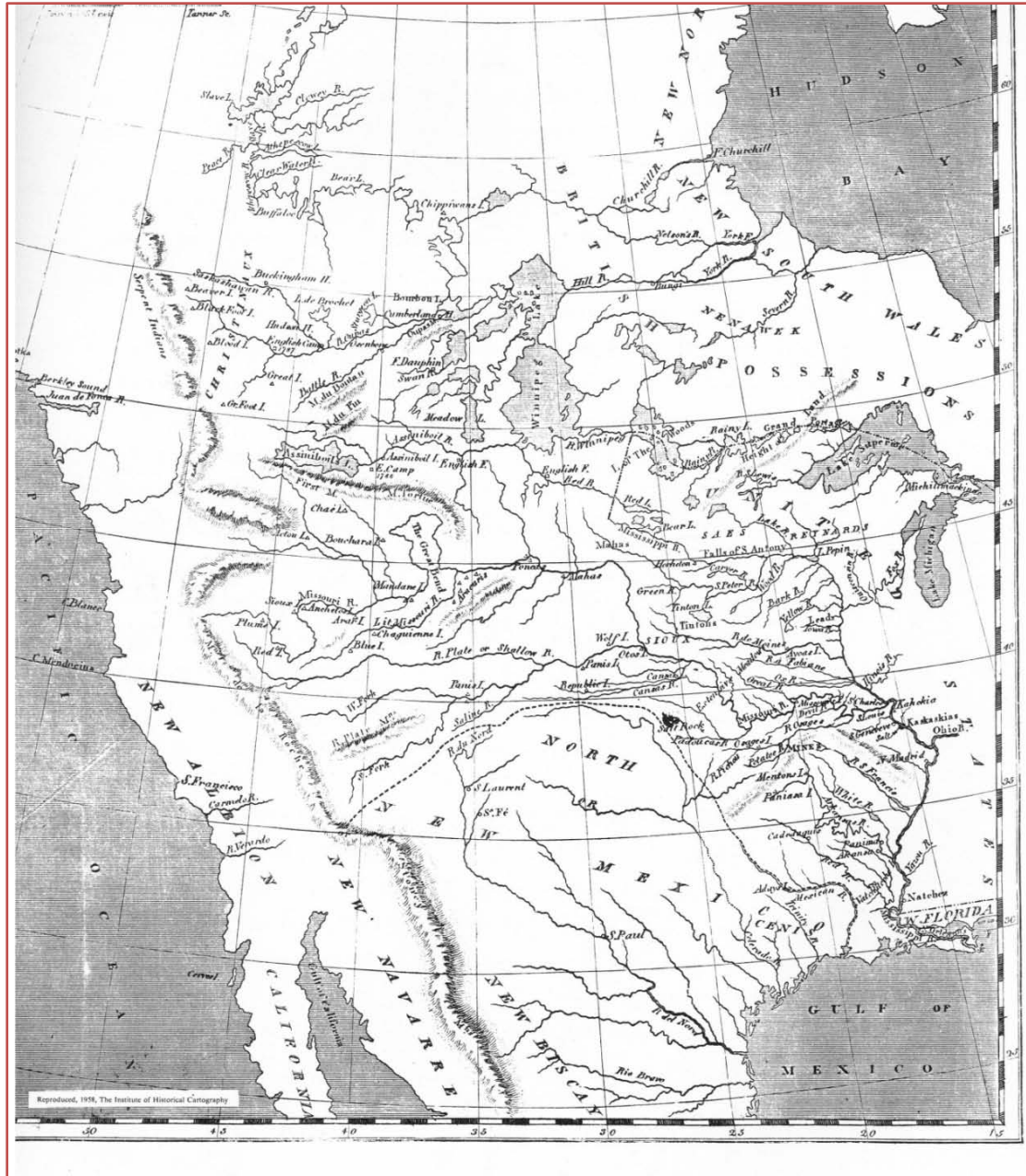


Figure 8.1. Arrowsmith, 1804. Arrowsmith, Aaron, and Samuel Lewis. “Louisiana.” Philadelphia: John Conrad & Co., 1804. Courtesy of the Regenstein Library, Chicago.

⁴ Walter Prescott Webb, *The Great Plains*, (Lincoln: University of Nebraska Press, 1981[1931]): 142.

⁵ Webb (1981[1931]): 143.

What was the American understanding of the Trans Mississippi west before the ‘age of discovery’ crossed that big muddy river? Richard Etulain has written that Europeans dreamed about the American West well before they first visited the region, and that

some of their dreams drew upon age-old visions of the West as Eden, as paradise, as the destiny of nations or as the direction of all great empires. Other European visions, more closely tied to their first experiences in the New World, envisioned the West as Cíbola (the fabled Seven Golden Cities of the Spanish), as a Passage to India, as the home of larger-than-life heroes, or as the Great American Desert or the Garden of the World.

But for the anachronistic “Great American Desert” bit, Etulain was correct, for Americans had no such concept in mind until decades after the great Jeffersonian exploration was completed; or rather ‘stopped’, for the project was only fifty per cent accomplished in Jefferson’s lifetime. American experience, indeed the experience of all European agriculturalists who moved from the East Coast westward,

added other ingredients to the cluster of ideas that grew up around the American West. New England Puritans, for instance, spoke of the frontier as a howling wilderness, infested with a dark Devil and his minions and with barbaric Indians.⁶

The Etulain quote raises the corollary to the desert myth, the ‘West as Garden.’ While the latter is as fictitious a concept as the first, both would exert “a decided influence on practical affairs,” to borrow the words of Henry Nash Smith.⁷ Bluntly, Jefferson did not knowingly buy a desert; he speculated he was buying a garden; and it was garden and not desert that Lewis & Clark were sent to find.⁸ One contemporary writer called the Louisiana Purchase “the region of fable”:

Before the cession of Louisiana to the United States, this was the region of fable. Fancy peopled it, and a thousand miraculous tales were related. The mammoth, that wonder of the creation, it was thought might be there, and Welsh Indians, with remnants of the Jewish tribes. The ancient maps represented the Missouri as an inconsiderable

⁶ Richard W. Etulain, *Beyond the Missouri: The Story of the American West*, (Albuquerque: University of New Mexico, 2006): 274.

⁷ Smith, Henry Nash, *Virgin Land: The American West as Symbol and Myth*, (Cambridge: Harvard University Press, 1970[1950]).

⁸ John Logan Allen, *Passage through the Garden: Lewis and Clark and the Image of the American Northwest*, (Urbana: University of Illinois Press, 1975).

river, rising at no great distance from the Mississippi, and running nearly parallel with that river[.]⁹



Figure 8.2. Volney crop. Joseph P. Volney and C.F [Constantin Francois]. "Map of the United States of North America: for Volney's View of the climate & soil of the United States / J. Bye sculp." London: J. Johnson, 1804.

⁹ Zadok Cramer, *The Navigator, Containing Directions for Navigating the Monongahela, Allegheny, Ohio and Mississippi Rivers; with an Ample Account of These Much Admired Waters. To Which Is Added an Appendix, Containing an Account of Louisiana, and of the Missouri and Columbia Rivers, as Discovered by the Voyage under Capts. Lewis and Clark*, (Pittsburgh: Cramer, Spear and Eichbaum, 1817[1805]). Internal evidence (p. 293) indicates that this iteration of *The Navigator* was first published in 1805, with the ninth edition published as a book in 1817.

Volney's map, published in London in 1804, shows the extent of American and British knowledge of the TransMississippi West prior to the Louisiana Purchase. Politically, the French forts along the Mississippi, "St. Lewis, Cahokia, Ft. Chartres, and Kaskaskias", are prominently evident. This political reality is separated by a vast vacant stretch of "Desert Savannahs" between the Ohio and Mississippi rivers; almost exactly where the "*Desert du six vint lieues d'entendue ou les Illinois font la Chaise des boeufs*" was positioned on the d'L'Isle map of 1717.¹⁰ Across the Mississippi, there was some knowledge of the course of the Missouri River, but as for the rest, it may as well have been a great desert for all anyone knew! The Volney map, incidentally, is a near exact copy of the famous Peter Pond map presented to the American Congress in 1785. The Pond map displayed total ignorance of anything below the Missouri having, for instance, the Rio Grande flowing to the east of the "Stony Mountains."¹¹

That American Joseph Volney labeled the Ohio bottoms "desert savannahs" was in keeping with the euramerican meaning of 'desert' at the beginning of the 19th Century.¹² Volney replicated the French mapping convention of using the cultural term 'desert' to signify tall grasslands featuring wild Indians hunting scattered herds of bison. It is highly unlikely that more than a handful of Americans had ever seen what we now think of as an environmental desert. Transiting directly from England, Wales, Scotland, Ireland, France, and the German states aboard ships hardly provided experience of deserts. Yet European immigrants insisted upon placing deserts on their maps representing unexplored regions. What did they mean by 'desert'?

It was not only in North America that Europeans found great deserts. The South American pampas were in the 19th Century labeled and mapped as a desert. So too was the

¹⁰ Guillaume d'L'Isle. "Carte de la Louisiane et du cours du Mississippi, dressée sur un grand nombre de mémoires entrau tres [i.e. entr'autres] sur ceux de Mr. le Maire, par Guillaume de l'Isle." Imprint: [Paris? 1717?]. Description: map 36 x 41 cm. Scale ca. 1:6,200,000. Courtesy of the Regenstein Library Map Collection, Chicago.

¹¹ Peter Pond, "Copy of a Map presented to the Congress by Peter Pond, a native of Milford in the State of Connecticut," Service Historique de la Marine, 1785. In, Derek Hayes, *Historical Atlas of the American West; with Original Maps*, (Berkeley: University of California Press, 2009): Map 115, p.62..

¹² A parallel mental construction to 'desert' was that of 'the swamp'. To the first generations of Euramericans, a swamp could be anything from a tidal basin to an inland forest, as long as it held the menace of Indians; the word is an American neologism. The term came to have such a loaded cultural meaning it becomes relatively useless in figuring environment in some primary sources. Swamp became a verb meaning first 'to hide in the woods,' later 'to be overcome (by water, et cetera). Jill Lepore, *The Name of War: King Philip's War and the Origins of American Identity*, (New York: Vintage Books, 1998): 85-88. "Swamp," The Century Dictionary Online <http://www.global-language.com/CENTURY/> (accessed 13 January 2011).

prolifically productive African veldt (map below), the interior of Australia, and the Asian steppes. While Australia would prove to contain environmental desert, what these regions had in common was that they remained largely unexplored by Europeans, they had large un-colonized aboriginal populations, and they contained vast productive grasslands.



Figure 8.3. African Desert. R. C. Smith, ed. “Map of Africa,” author unknown. *Smith’s Geography for Schools*. New York: Paine & Burgess, 1839. Courtesy of the Newberry Library, Chicago.

These textual deserts were examples of, in the words of Edward Said, “imaginative geography[.]”¹³ The great deserts were, essentially, *Other Places*; it was not just people who were stereotyped in the colonial epoch, regions suffered the same fate. As Ania Loomba has written:

¹³ Edward W. Said, “Imaginative geography and its representations,” 49-73. *Orientalism*, (New York: Vintage Books, 1979).

Stereotyping involves a reduction of images and ideas to a simple and manageable form; rather than simple ignorance or lack of ‘real’ knowledge, it is a method of processing information...stereotypes...perpetuate an artificial sense of difference between ‘self’ and ‘other’.¹⁴

In lieu of actual experience of the Great Plains, Jefferson, Volney and their generation assumed knowns for unknowns, and the Jeffersonian argonauts set figurative sail into the great unknown across the Mississippi. They traveled by rafts or pirogues and were armed with firearms, compasses and other instruments they often did not know how to work.¹⁵ They were equipped with the apparatus of marine exploration and a clutch-bag vocabulary featuring ‘environmental’ metaphors from the pages of the Bible.

The American Bible, the King James Version first published in 1611 has some forty iterations of *desert*, many of them referring to environmental deserts:

For they were departed from Rephidim, and were come [to] the desert of Sinai, and had pitched in the wilderness; and there Israel camped before the mount. Exodus 19:2.¹⁶

Many of the iterations contain references to deserts containing “wild beasts” including pelicans, asses, dragons, and, strangely and often, owls. A biblical desert was then a place where wild beasts roamed. The Bible is a literary document, and desert also had metaphoric meanings. In particular, “He found him in a desert land, and in the waste howling wilderness” (Deuteronomy 32:10); Howling wilderness is a phrase forever linked in American letters with the aboriginal frontier beginning with the earliest at Jamestown.¹⁷

A poem written during the great drought of 1662 makes explicit the conflation of these biblical images into American experience on the early Indian frontiers:

Beyond the great Atlantick flood
There is a region vast
A country where no English foot
In former ages past:
A waste and howling wilderness, (5)

¹⁴ Ania Loomba, *Colonialism/Postcolonialism*, 2nd ed., (New York: Routledge, 2005[1998]).

¹⁵ Lewis and Clark’s own journals were “meager and unsatisfactory” (Webb, 143); Pike was uncomprehending of the compass. None of them could figure longitude.

¹⁶ The Official King James Bible Online <http://www.kingjamesbibleonline.org/> (Accessed 10 January 2011).

¹⁷ The phrase was not only applied to aboriginal frontiers, it was extremely popular during times of war, especially the Civil War.

Where none inhabited
 But hellish fiends, and brutish men
 That Devils worshipped [...]
 The Lord had made (such was his grace) (81)
 For us a Covenant
 Both with the men, and with the beasts,
 That in this desert haunt:¹⁸

Indians, “hellish fiends, and brutish men,” then roamed this howling wilderness, this “desart” with the beasts. As Roderick Nash has written, the Puritans’ “[b]ibles contained all they needed to know in order to hate wilderness. Contact with the North American wilderness only supplemented what the Puritans already believed.”¹⁹

The Puritans however, also fastened on to a more positive aspect of the biblical desert, in that Christians could turn the desert into a civilized and fruitful place. Believers were promised that the “wilderness and the solitary place shall be glad for them; and the desert shall rejoice, and blossom as the rose” (Isaiah 35:1). As John Smith wrote, “most of this country, though desert, yet exceedingly fertile; good timber, most hills and dales, in each valley, a crystal spring.”²⁰ This is hardly a description of an environmental desert. The land was obviously capable of becoming productive, it merely had to be secured and improved through euramerican efforts; building “towers in the desert [digging] many wells; for [they] had much cattle, both in the low country, and in the plains; husbandmen and vine dressers...for [they] loved husbandry” (2 Chronicles 26:10). Even before Joseph Smith took his people west *in search of* Deseret, part of the American psyche yearned for deserts to improve.

What was the American notion of the new West circa 1800? President Thomas Jefferson told Congress in 1803 that the boundaries of his vast and unconstitutional Louisiana Purchase were shrouded “in some obscurity” and human settlements there “were separated from each

¹⁸ Michael Wigglesworth “God’s Controversy with New England; Written in the time of the great drought 1662,” 42-52, Conrad Cherry, ed., *God’s New Israel: Religious Interpretations of American Destiny*, Rev. Ed. (Chapel Hill: University of North Carolina Press 1998[1971]): 42 ff.

¹⁹ Roderick Frazier Nash, *Wilderness and the American Mind*. 4th ed. (New Haven: Yale University Press, 2001[1967]): 35. For an excellent discussion of the Puritan’s view of natural North America see “A Wilderness Condition,” 22-43.

²⁰ John Smith quoted in George R. Stewart, *Names on the Land: A Historical Account of Place-Naming in the United States*, New York: New York Review Books, 2008[1945].

other by immense and trackless deserts.” Within those deserts and a thousand miles up the Missouri Jefferson believed there was “a mountain of salt, 180 miles long and 45 miles wide...wholly devoid of vegetation.”²¹ No wonder that some Americans considered expansionists like Jefferson “the outer edge of the lunatic fringe.”²² If Jefferson really thought the Louisiana Purchase was a shifting sea of sand, why buy that?²³ The reality is that both Jefferson and “the sheer weight of the mainstream of...American opinion” believed that all of Louisiana, if not all of the Louisiana Purchase, was “perfect for agriculture.”²⁴

To explore the great purchase and “show the flag” to British and Spanish pretenders to the US’s newest territorial possession, the President sent out several major expeditions: Meriwether Lewis and William Clark to test the Missouri River or northern limits of the Louisiana Purchase (1804-1806); Zebulon Pike to explore the Arkansas River or central portion (1805-1807); Thomas Freeman and Dr. Peter Custis to explore the south-central Red River (1806); and the “forgotten expedition” of William Dunbar and George Hunter to test the southernmost Louisiana limits (1804-1805). That Lewis and Clark was a political gamble is evidenced in Jefferson seeking funding through a “confidential” message to Congress, one that “described the expedition as a commercial one” and therefore within Constitutional limits.²⁵ These paramilitary exploratory expeditions were meant to map and record the native peoples, natural resources and geography of the Louisiana Purchase and to lay claim to the lands surveyed.²⁶ The region’s only known resource was furs, as reflected in all expeditions setting out to map river courses, the highways of the French and British fur-trade.

²¹ Ralph Curtis Morris, "The Notion of a Great American Desert East of the Rockies," 190-200, *The Mississippi Valley Historical Review* 13:2 (1926): 190. The Jefferson “trackless deserts” quote is from his *Description of Louisiana* as submitted to Congress in 1803. The “mountain of salt” quote is Morris paraphrasing Jefferson; attributable to Dr. John Sibley.

²² John Logan Allen. "Geographical Knowledge & American Images of the Louisiana Territory," 151-70, *The Western Historical Quarterly* (2:2 (1971): 153.

²³ Jefferson’s initial goal was to purchase New Orleans, not the entire west. News of the Louisiana Purchase completed April 30 1803 exploded on an unsuspecting public when the news was released on July 4, 1803.

²⁴ Allen (1971): 157.

²⁵ Donald Jackson, ed., *Letters of the Lewis and Clark Expedition, with Related Documents, 1783-1854*, (Urbana: University of Illinois Press, 1962): 10-13. William H. Goetzmann, *Exploration and Empire: The Explorer and the Scientist in the Winning of the American West*, (New York: Alfred A. Knopf, 1966): 4.

²⁶ Resources on the Lewis and Clark Expedition are legion. For introduction to the others: William Dunbar and George Hunter, *The Forgotten Expedition, 1804-1805: The Louisiana Purchase Journals of Dunbar and Hunter*, Edited by Trey Berry, Pam Beasley, and Jeanne Clements. (Baton Rouge: Louisiana

Critical to Jefferson's project, the "single most important exploration in American history," was access to "reliable maps" to facilitate charting routes.²⁷ Before 1803 Jefferson viewed a map of the Missouri made by James MacKay, a Scot who traded in Canada before being employed by the Spanish to map and explore the Missouri as far as the Mandan agricardo in 1795.²⁸ Mackay fashioned a reasonable map of the lower Missouri River, and unlike many of his peers he did not speculate on the geography of the unseen Plains. Mackay partnered with Welsh draftsman John Thomas Evans and produced the Missouri map, known historically as "the Indian Office Map."²⁹ MacKay's and Evans' map drafting took place at the same time as Antoine Soulard appeared at St. Louis, and MacKay's sketches and impressions wound up uncredited in the Soulard map of 1795.³⁰ Mackay's efforts were supported by Spanish governor Carondelet and intended to "forestall the American in this region and to drive out the British."³¹ However, Jefferson acquired and Lewis & Clark would set out equipped with the MacKay "Indian Office Map". Mackay and Evans would spend two years exploring the Missouri, and these records also wound up in the hands of Meriwether Lewis in January, 1804.³² The Mackay maps went to Washington and the Soulard map went to Europe. It was the Soulard map that added the "*manantrial descoriocio*" or environmental desert to the mapping narrative of the Study Area. Lewis & Clark set out desert free.³³

State University Press, 2006); Stephen Harding, Hart and Archer Butler Hurlbert, *The Southwestern Journals of Zebulon Pike, 1806-1807*, (Albuquerque: University of New Mexico Press, 2006); Dan L. Flores, ed. *Jefferson & Southwestern Exploration: The Freeman & Custis Accounts of the Red River Expedition of 1806*, (Norman: University of Oklahoma Press, 1984).

²⁷ Danisi, Thomas C., and W. Raymond Wood. "Lewis and Clark's Route Map: James Mackay's Map of the Missouri River," 53-72, *Western Historical Quarterly* (35: 1, 2004): 53.

²⁸ Danisi (2004): 57-9.

²⁹ So-called because of where the archival copy was first located. A detail is reprinted in Danisi at 62. The map is held in the Library of Congress.

³⁰ Antoine Soulard, "Ydea Topografica De Los Altos Missisipi Y Del Missouri [1795]," In *Mapping the West: America's Westward Movement 1524-1890*, edited by Paul E. Cohen, (New York: Rizzoli, 2002).

³¹ Isaac Joslin Cox, "The Louisiana-Texas Frontier," 1-75, *The Quarterly of the Texas State Historical Association* (10:1 (1906): 61.

³² Clark, January 30, 1804, JLC Online. Ed. note, "Hay gave Lewis a copy of the Mackay-Evans journal of the Missouri River venture of 1795-97 and considerable other information on the Northwest and the fur trade."

³³ For the story of MacKay's adventures, see W. Raymond Wood. *Prologue to Lewis & Clark*. Norman: University of Oklahoma Press, 2005.

May 24, 1804, a lion of the Enlightenment came ashore at Philadelphia; Alexander von Humboldt had come to call on his fellow “friend of science”, President Thomas Jefferson.³⁴ Both men had “a reverence for reason [and philosophies] based on data supplied by science.”³⁵ The impact of this six-week visit upon American letters “likely exceeded that of any other foreign naturalist” of the era and would greatly influence Jeffersonian argonauts.³⁶ Humboldt was returning from his work in Mexican archives creating a map of New Spain, a place he had not visited in person. This map, *Carte General*, was a beautiful artistic creation but fatally flawed in its geography. However, the map was still an advance in the understanding of the geographical TransMississippi West. Given the thrall with which this intellectual celebrity was received in America, it would be decades before Humboldt’s errors were understood. Humboldt understood the Spanish did not know how the Great Plains worked. Rather than sketch fictitious rivers across the “Plaines immenses ou paissent les Bisons (Cibola)”, he admitted he did not know those riparian courses and sketched the heads of rivers at the “Sierra Verde” along with the known rivers mouths at the Gulf and the Mississippi. In between are *Plaines* and *Savannes* and very good estimations of Indian presence; *Apaches Llaneros*, *Apaches Lipanes*, *Taouaiazes* (Taovaya/Wichita), and the *Nation des Cadodaquis*. Incredibly, the Spanish apparently still did not know that the Napestle/Arkansas was the same river. Humboldt suspected the two were the same river in editorializing, “[o]n ignore au Nouveau Mexico sous quel nom le Rio Napestle est connu plus à l’Est dans la Louisiane Serait-il identique avec l’Arkansas!” Humboldt was totally fooled, however, by Spanish understandings of the *Canadian*, Red, and Pecos Rivers.³⁷

³⁴ Jefferson and Humboldt shared interest in, among many other things, mammoth teeth. A “fawning” Humboldt quoted in Aaron Sachs, *The Humboldt Current: Nineteenth-Century Exploration and the Roots of American Environmentalism*, (New York: Penguin Books, 2006):2.

³⁵ Helmut De Terra, "Motives and Consequences of Alexander Von Humboldt's Visit to the United States (1804)," 314-16. *Proceedings of the American Philosophical Society* (104: 3, 1960): 314.

³⁶ De Terra. (1960): 316. Aaron Sachs argues that this impact has been forgotten.

³⁷ Humboldt depicted the Pecos in its channel although he has it empty into the Gulf and it is named Rio _____ (too faint to read). I believe this was Humboldt’s misreading of sources and not Spanish ignorance of their own history and geography.

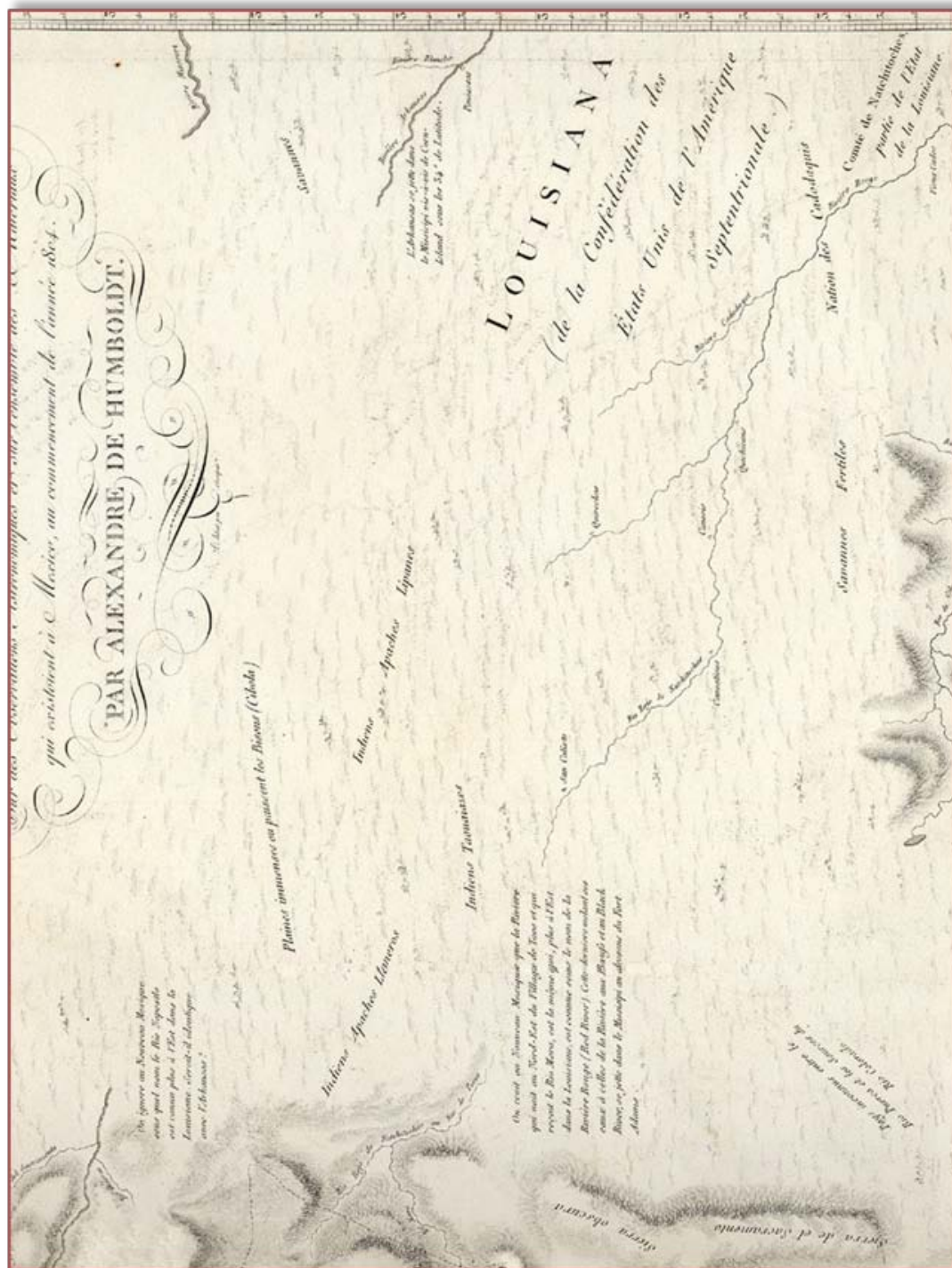


Figure 8.4. Humboldt Crop. Alexandre de Humboldt, *Carte Général du Royaume de la Nouvelle Espagne, depuis le Parallèle de 16° jusqu'au Parallèle de 38° (Latitude Nord)*, *Maps of the American West* [Online], Special Collections/Archives, McFarlin Library. University of Tulsa. <http://www.utulsa.edu/mcfarlin/speccoll/collections/maps/humboldt>. (Accessed 19 January 2011).

Humboldt wrote that in New Mexico they *knew* the Mora River flowed into the *Rivière Rouge*, which was alternately known as the Black River or River of Beef and flowed into the Mississippi at Fort Adams. How could it be possible that even after the exploits of Vial, the Spanish still conflated the Canadian and Red Rivers? Humboldt was suspicious and refused to link the two in the middle. Still, the impression made by this map was that the Arkansas and the Red headed close together about Taos, and that the Red and Canadian were one.

Humboldt imposed no deserts on the “Plaines Immense”. I surmise this was the textual birth of the phrase, *Great Plains*. He did differentiate between the “Savannes Fertile” in Tejas and the “Plaines Immense ou Passent les Bison” on and about the Napestle. Further “Savannes” were situated between the Arkansas and the Missouri, roughly where Bourgmont and Vial had passed earlier. In the French of 1800, a savane was a specifically American term meaning “Une prairie”, and in Canada “forets d’arbres resineux,”³⁸ or pine forests. This is a very sophisticated reading of the differences between the Central and Southern Plains, and the Kansas Prairie. In conjunction with his placement of aboriginal group names, he provided the bones of the Gallic understanding of desert, *a place where Indians chase wild cattle*. But Humboldt, having experienced environmental deserts in Mexico and South America did not employ this label on his map. This also reflects the historical Spanish understanding of the Study Area as plains and not desert. While Humboldt did not impose a great environmental desert in the Louisiana Purchase, he placed the symbology of the French cultural desert—Indians chasing bison—in that space.

That this map was published in 1812 belies its impact on Jeffersonian argonauts. Humboldt presented Jefferson with a working copy of the map during his Washington visit that Jefferson and Secretary of the Treasury Albert Gallatin might copy it. Since he visited the American Philosophical Society in Philadelphia, he may have shown it there as well. Lewis and Clark, then on the Mississippi, did not see the document, but others would. Zebulon Pike surreptitiously copied the map as it lay open on the desk of Secretary Gallatin. Pike then went to the plains with Humboldt’s errors firmly in mind. Writers who assume Pike lied about his ignorance of Plains geography for nefarious reasons have overlooked these facts. Pike later

³⁸ *Dictionnaire de l'Académie française*, 5th Edition (1798). Later editions reflected the impact of colonialism as different meanings are given for Guyana, Antilles, et cetera.

plagiarized the document when producing his own map of the West thereby attracting the attention of Humboldt.³⁹

Lewis & Clark: 1804-1806.

Arguably the most important of the American exploring enterprises, certainly the most important of Jefferson's, the Lewis & Clark Expedition of 1804-06 must of necessity receive short shrift here, primarily because they just skirted the Study Area to the east and north, and secondarily because it is one of the most scrutinized subjects in American History. Lewis & Clark (after, L&C) and company were "the writingest explorers of their time", and at least five of the participants published journals; the annotated documents require two feet of shelf space, and secondary literature runs to hundreds of thousands of pages.⁴⁰ This was an ostensibly scientific expedition manned by farmers, carpenters, and career military men. Jefferson struggled mightily to find men of science to participate in or lead this mission, but exploration "expeditions are so laborious and hazardous, that men of science, used to temperature and inactivity of their closet, cannot be induced to undertake them."⁴¹ This was the most celebrated of expeditions because it was, uniquely, successful in accomplishing its primary purpose. From a distance of two centuries it is natural to presume that L&C instantly opened the West to public purview; the reality is that this did not happen; it would be decades before their true impressions reached the public.

For a detailed discussion of the L&C journals Gary Moulton's "Introduction" is invaluable.⁴² What is of concern herein is how and when journal data was made public and therefore influenced American opinion of the Study Area. Did L&C begin the myth of a Great Desert? They did not. None of the principals were yet alive when "the full record" of the Expedition "was presented to the world."⁴³ Lewis planned to publish in 1807, but did not when

³⁹ Sachs (2006): 376, *n* 14. And, Morris (1997): 201.

⁴⁰ 'Lewis & Clark', and 'Lewis and Clark' together receive nearly ten million hits on *Google*, 1,340,000 on *Google Scholar*.

⁴¹ Thomas Jefferson, "Letter to Volney, Washington, 11 February, 1806," In, James P. Ronda., "Exploring the West in the Age of Jefferson," 9-74. Logan, John Allan, ed., *A Continent Comprehended*, 3 vols. Vol. 3, *North American Exploration*, (Lincoln: University of Nebraska, 1997): 20.

⁴² Gary E. Moulton, "Introduction," and "Editorial Procedures," 1-56. Moulton, ed., *The Definitive Journals of Lewis and Clark: From the Ohio to the Vermillion*, 13 vols. Vol. 2, (Lincoln: University of Nebraska Press, 1986).

⁴³ Moulton, v.2, "Introduction": 35.

Jefferson appointed him governor of Louisiana; Lewis took own life in 1809. Clark, meanwhile, became superintendent of Indian affairs for Louisiana, too busy to publish. In 1813 Nicholas Biddle published a *History of the Expedition* in an edition of 2,000—so rare that Clark could not find a copy.⁴⁴ Otherwise, not until 1892 did Elliot Coues re-discover and begin editing for publication the long-ignored materials.⁴⁵

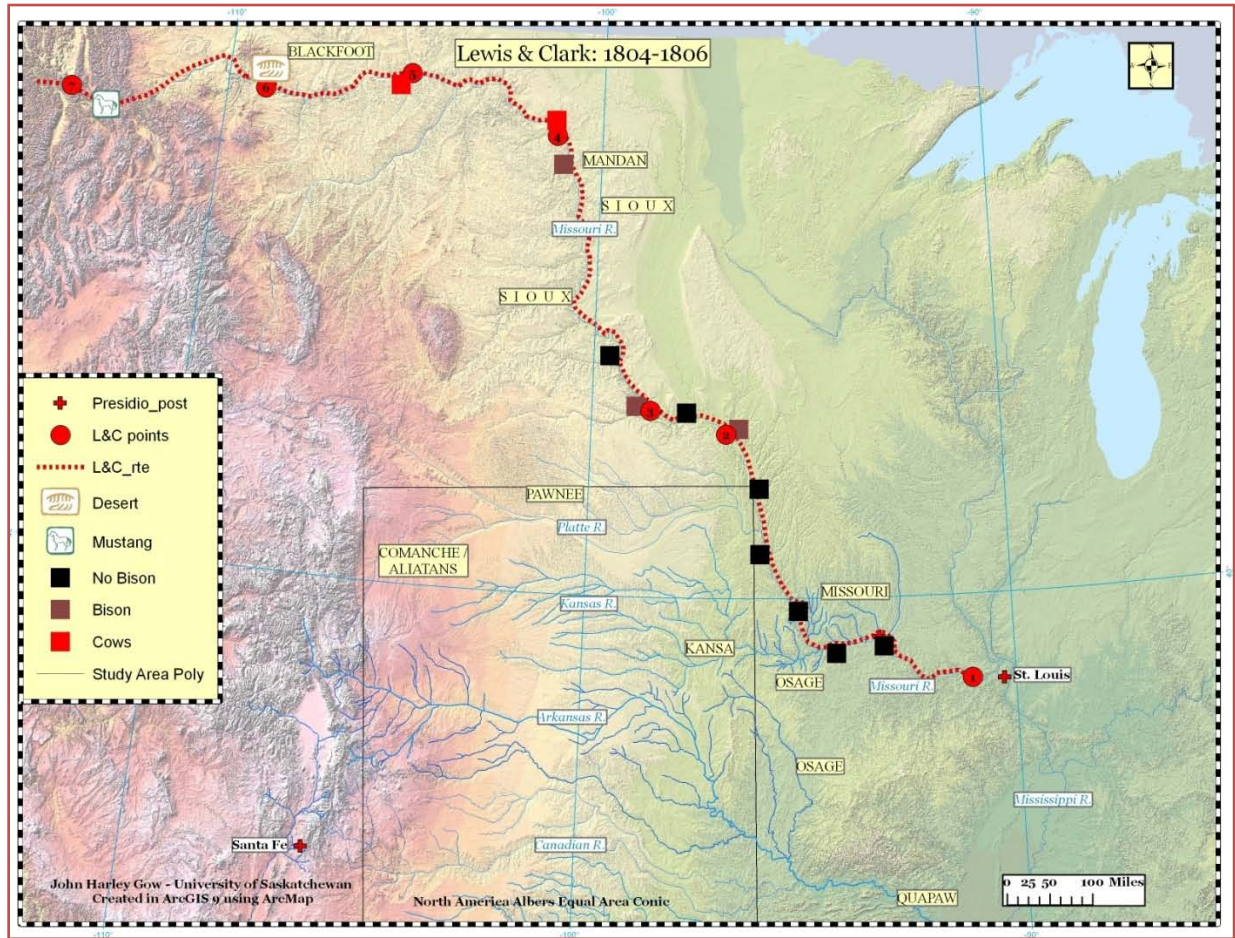


Figure 8.5. Lewis and Clark, 1805-1806. (Data map at Fig. 8.6)

The first journalist to publish was Sergeant Patrick Gass. Gass, not the least literate of the group, published in 1807 a heavily edited and unofficial version of his journey with all of the names redacted by his editor. As Gass was a carpenter, his popular version contained some interesting measurements, but little scientific or geographical knowledge. Likely the first bits of

⁴⁴ Moulton, v.2 "Introduction": 35

⁴⁵ Moulton, v.2. "Provenance and description of the journals": 535.

Gass' information to reach the public was through the offices of Zadock Cramer who coined "region of fable," and published an annual, *The Navigator*. Cramer wrote an "Abridgement of Lewis and Clark's Expedition" that appears as an appendix in later editions. This abridgement was taken from the Patrick Gass journal published in 1807, seven years prior to the publication of the Lewis and Clark manuscript.⁴⁶ Gass used 'desert' twice in his edited recollection; "Tuesday 28th. We set sail early, had a fine morning, and proceeded on through this desert country untill about 4 o'clock P. M. when we came to a more pleasant part",⁴⁷ [6: 109°W x 48° 30'N]⁴⁸ Gass here made a compendium entry about the Plains to this point;

We have now got into a country which presents little to our view, but scenes of barrenness and desolation...Having [come] two thousand three hundred miles, it may therefore not be improper to make...general observations[.]

From the mouth of the Missouri to that of the river Platte [600mi.] the land is generally of a good quality...with timber...in many places very rich[...] Along the Missouri [are] large prairies or plains the boundaries of which the eye cannot reach. The grass is generally short...in the proper seasons decorated with blossoms and flowers...buffaloe, elk, deer, and other animals in vast numbers feed upon the plains or pursue their prey[.]

From the confluence of the river Platte with the Missouri to the Sterile desert [1,500mi.]... the soil is less rich, and except in the bottoms, the land of an inferior quality[.] This kind of country and soil which has fallen under our observation...extends as it is understood, to a great distance on both sides of this river.⁴⁹

Gass' companions all referred to treed bottomlands and hills at this location and none described or used 'desert.' Gass elsewhere noted almost exclusively in what would be *Dakota Territory* or *Montana* specific areas where "the hills [were] without grass" or "hills...appear like great heaps of clay...with scarcely any herbs or grass on any of them."⁵⁰ Sergeant Gass, the expedition's carpenter and boat builder, never saw what he considered an environmental desert, although he did note many areas where a dearth of useable trees made practicing carpentry difficult.

⁴⁶ Incredibly it would be a full *century* before publication of the official journals of the Lewis and Clark Expedition. For an explanation of this, see Donald Jackson, "The Race to Publish Lewis and Clark," 163–77, *Pennsylvania Magazine of History and Biography* (85:2, 1961).

⁴⁷ Patrick Gass, *The Journal of Patrick Gass, May 14, 1804 - September 23, 1806: The Definitive Journals of Lewis & Clark*, Edited by Gary E. Moulton, Vol. 10 (Lincoln: University of Nebraska Press, 1996[1807]): 95, May 28, 1805. This was in the Missouri River Breaks.

⁴⁸ From the text and notes, above *Fergus MT*.

⁴⁹ Gass (1996[1807]): 94.

⁵⁰ Gass (1996[1807]): 81, 85, 92.

The journal of Expedition Sergeant John Ordway makes no mention of deserts.⁵¹ Ordway did observe in *Montana*; “we See no great bodies of pure Sand [...] in a Northerly direction is a rich vallie contain some Short Grass, and prickly pears without timber (May 21, 1805).”⁵² Ordway differentiated between specific localized habitats such as plains, valleys and hills, and did not generalize deserts out of localized dunes or sand hills. In one other case, Ordway noted a scarcity of grasses in early spring in the ‘Idaho’ mountains (26, 27 June, 1806).⁵³ On the other hand, Ordway noted by a factor of perhaps 10:1 areas where grass was adequate or plentiful; “we Saw plenty of Grasses Rushes &C.”⁵⁴ Ordway is one of the rare chroniclers who occasionally mentioned what variety of grass he observed, and he was also the most faithful of all the Lewis and Clark writers, providing an entry for every day of travel.⁵⁵ Ordway’s journal had no impact on American perceptions of a Great American Desert as it remained unpublished until the 20th Century. In fact, “desert” appears only some 23 times in the definitive compilation of all the L&C journals and many of these were duplicate entries.⁵⁶

William Clark made one famous desert pronouncement May 26, 1805, on the Missouri between the Musselshell and Judith rivers [7];

Capt Lewis in his walk killed a fat Buffalow which we were in want of __ our hunters killed 2 Mountain rams or big horns __ in the evening late we passed a rapid which extended quite across the river __ we assended it by the assistance of a Cord & poles __ on the Lard. Side the Cliffs jut over, the opposit Side is a Small leavel bottom, we Camped a little above in a Small grove of Cotton trees on the Lard.⁵⁷ Side in the rapid we saw a Dow Elk & her faun, which gave rise to the name of Elk & faun Riffle __ we had a few drops of rain at Dark.— the Salts Coal & Burnt hills & Pumicston Still Continue, game Scerce __ this Countrey may with propriety I think be termed the Deserts of America, as I do not Conceive any part can ever be Settled, as it is deficent in water,

⁵¹ John Ordway, "The Journal of John Ordway," In *The Definitive Journals of Lewis and Clark: John Ordway and Charles Floyd*, edited by Gary E. Moulton, (Lincoln: University of Nebraska Press, 1995).

⁵² Ordway (1995): 152.

⁵³ Ordway (1995): 327.

⁵⁴ Ordway (1995): 89.

⁵⁵ An environmental GIS mapping of the Lewis and Clark expedition would be an interesting and valuable project for some scholar to undertake. This project would be enriched by the number and variety of journal’s available. Besides Lewis and Clarks’ parallel journals there are those of Ordway, Floyd, Gass and Whitehouse. Using the coordinates provided by Lewis and well-established camp sites, it would be often be possible to combine/compare several impressions of the same site.

⁵⁶ Contrarily, desert, meaning ‘desertion of duty’, appears dozens of times.

⁵⁷ Larboard, left-hand side of boat looking forward.

Timber & too Steep to be tilled. We pass old Indian lodges in the woody points every day & 2 at our camp &c[.]⁵⁸

This observation was made in the Judith Basin below *Bearspaw Mtn.*, which features fractured rock, “Claggett Shale” and heavily eroded stretches featuring faults and cuts.⁵⁹ Clark was not making a sweeping statement about the Great Plains.

Meriwether Lewis was a tad less negative and better centered the observations, writing “[t]his is truly a desert barren country...a continuation of the black hills.”⁶⁰ Ordway echoed Clark almost precisely. However, Gass and other writers were much less negative. Gass wrote;

We set out early in a fine morning, and passed through a desert country; in which there is no timber on any part, except a few scattered pines on the hills. We saw few animals of any kind, but the Ibex or mountain sheep...We at length, after having gone twenty-one miles encamped on the South side in a small grove of timber, the first we had seen during the day.⁶¹

Lewis would next write about deserts in August 1805; “the next part of the rout was about 10 days through a dry and parched sandy desert,” but he was referring to the “arid Snake River plain of southern Idaho.”⁶² All of the other references to desert referred to areas in the intermountain that constitute actual deserts, pocket or otherwise. The term was not used on the plains to describe large areas, although they did frequently describe sandy reefs and rocky shoals about the Missouri. The L&C journalists had no environmental definition for desert in mind. Neither of the expedition’s two dictionaries, including the *Dictionary of Arts and Sciences*, contained a definition for the word.⁶³ The Lewis and Clark expedition was not the progenitor of the GAD mythology.

Lewis and Clark help to situate aboriginal groups of the Study Area. The Kansa were then a hundred miles up the Kansas River. Clark noted their former site on the Missouri where

⁵⁸ William Clark, May 26, 1805. L&C Journals Online.

⁵⁹ Gary E. Moulton, ed., *From Fort Mandan to Three Forks*. 13 vols. Vol. 4: April 7-July 27, 1805, *The Definitive Journals of Lewis & Clark*, (Lincoln: Bison Books, 1987): 207 n 1.

⁶⁰ Meriwether Lewis, May 26, 1805. L&C Journals Online.

⁶¹ Patrick Gass, May 26, 1805. L&C Journals Online.

⁶² Meriwether Lewis, August 14, 1805, Journals of the Lewis and Clark Expedition Online, <http://lewisandclarkjournals.unl.edu>. Accessed January 29, 2011. And, John Logan Allen, n 9, op cit.

⁶³ G. Malcolm Lewis, "Three Centuries of Desert in the Cis-Rocky Mountain West," 457-68. *Journal of the West* (4: 3, 1965): 465. The two dictionaries were Chambers *Cyclopedias or an Universal Dictionary of Arts and Sciences* (1779), and Owen (1763, 2nd ed.). Owen is available online at Open Library.org., http://openlibrary.org/books/OL7155443M/A_new_and_complete_dictionary_of_arts_and_sciences Accessed 11 February, 2011.

Bourgmont encountered them in 1724. At least two forces were at work behind this move, the most important being the retraction of the bison range away from the Missouri. Even in 1724 the Kansa had to trek many miles to access the herds. By Vial's transit in 1785 the Kansa were hunting below the Great Bend of the Arkansas. Secondly, Siouan intrusion across the Missouri as observed by Lewis and Clark must have had an effect on the Kansa. Clark's map shows the Missouri and Oto above the Kansa on the Platte, and perhaps their move onto that river pushed the Kansa off the Missouri.

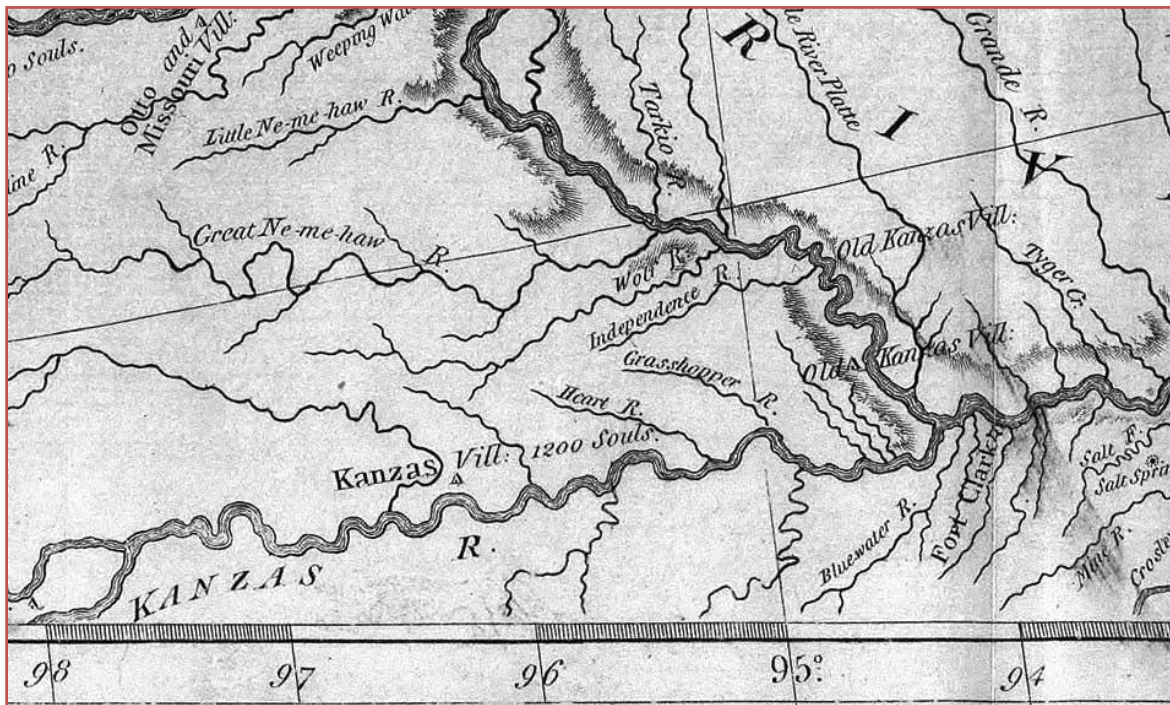


Figure 8.6. Lewis and Clark, Kansa Crop. Paul Allen, Nicholas Biddle, William Clark, Meriwether Lewis. "A Map of Lewis and Clark's Track, Across the Western Portion of North America From the Mississippi to the Pacific Ocean." Philadelphia: Bradford and Inskeep, 1814. Courtesy of the David Rumsey Map Collection, Online. < <http://www.davidrumsey.com/> >. Accessed 15 November, 2010. Clark was years deceased when this map was published.

Lewis & Clark had little to say about Padouca and Comanche, but what they did and did not report is very useful. The Comanche were referred to only tangentially as the Aliatans in the context of the Missouri groups waging war on them. The Aliatans traded with the Spanish, had immense herds of horses, and lived "[a]mong the rocky mountains and in the plains at the heads

of the Platte and Arkansas rivers.”⁶⁴ They had nothing of value to trade with Americans. These journalists conflated the Cheyenne, Comanche, Shoshone, and Utes into one entity; indeed all these groups are of one linguistic family. It appears the Osage, Kansa, Sioux and Blackfoot insulated the Aliatans from the Missouri trade.

Clark addressed the issue of the Padouca formerly “verry noumerous”, now seemingly defunct as a group presence;

This once powerful nation has, apparently, entirely disappeared; every inquiry I have made after them has proved ineffectual. In the year 1724, they resided in several villages at the head of the Kansas river, and could...bring upwards of two thousand men into the field[.]⁶⁵ The information I have received is, that being oppressed by the nations residing on the Missouri, they removed to the upper part of the river Platte... The most probable conjecture is, that being still further reduced, they have divided into small wandering bands... [to L&C known as] Wetapahtoes [Arapaho?], Kiawas, Kanenavish, Katteka [Kotsoteka?], Dotame, &C. who still inhabit the country to which the Paducas are said to have removed.⁶⁶

The Comanche conquest of the former Plains Apache territory had been completed by 1806. Clark partially figured the results, if not the causes, of the Padouca disappearance. No doubt Padouca splinter groups withdrew into other Apache groups and migrated south. It is unclear if the Comanche settled on the lands north of the Arkansas River, or merely drove the Padouca from that region. What is clear is that the Padouca presence was defunct by 1806. The Clark map shows that Comanche and Wichita groups had displaced the Padouca on the upper Arkansas.

Lewis and Clark reported that where formerly the Mandan had nine ‘Villages’ on the Missouri, they were now reduced to two or three.⁶⁷ Towns on the east shore had removed to the west as “War and Small pox” had decimated this group.⁶⁸ Clark estimated they now numbered 1,250, down from 3,500 twenty years earlier.⁶⁹ This major agricardo of the northern plains was still functional if much reduced in population. While I have seen no evidence that L&C carried

⁶⁴ William Clark, “Estimate of the Eastern Indians,” 386-450. Gary E. Moulton, ed. *Up the Missouri to Fort Mandan*. 13 vols. Vol. 3, *The Definitive Journals of Lewis and Clark*, (Lincoln: University of Nebraska Press, 2002).

⁶⁵ A reference to the Bourgmont enterprise.

⁶⁶ William Clark, Moulton, Vol. 3: 438, 439.

⁶⁷ Text is unclear as to meaning.

⁶⁸ William Clark, August 18, 1806. Vol. 8: 309.

⁶⁹ William Clark, August 18, 1806. Vol. 3: 402.

infectious diseases, they were heading into an aboriginal world racked by introduced fatal diseases. 1780 and 1781 had seen smallpox sweep up the Mississippi devastating groups from the Quapaw to the Mandan.⁷⁰ Then again in 1801/2 smallpox swept the Missouri River.⁷¹ This epidemic devastated the Mandan, Osage, and Kansa among other groups, and aided Siouan imperialism. August 21 1806 they met an Arikara headed for the Mandan town who told them “700 Seoux [were] on their way to war with the Mandans and Menitaras.”⁷²

At a combined Arikara and Cheyenne camp they were given “boiled Young corn, beens and quashes [and also] 2 quarts of the Tobacco Seed” by the Arikara.⁷³ Tobacco was an important agricultural/cultural product. Mandan, Pawnee, and Arikara men grew tobacco, and seeds were not traded.⁷⁴ The Arikara, Cheyenne, Minatare, and Mandan were generally allied but for occasional misunderstandings; Arikara and Mandan occasionally raided each other.⁷⁵ The Arikara were Pawnee relations who likely benefitted from that relationship as regards the acquisition of horses.

In their trek to and from the Pacific Ocean on the Missouri these argonauts saw mustangs once. On July 5th 1806 Lewis reported “there are many wild horses on Clarkes River” in *Montana* [7: 114°W 47°N], and that they “saw some of them at a distance. there are said to be many of them about the head of the yellowstone river.”⁷⁶ This counters Jim Sherow’s 1992 contention that the Arkansas River marked the “northernmost range of mustangs” in the 1820s.⁷⁷

⁷⁰ DuVal (2006): 78.

⁷¹ R.G. Robertson, *Rotting Face: Smallpox and the American Indian*, (Caldwell ID: Caxton Press, 2001).

⁷² William Clark, August 21, 1806. Vol. 8: 311.

⁷³ The Arikara were agriculturalists but this was a mobile hunting camp. William Clark, August 21, 1806. Vol. 8: 315.

⁷⁴ They were also gifted with “2 quarts”, meaning carrots, or plugs of tobacco. Tobacco was planted away from corn fields in the spring. Some tobacco seed was reserved for the next years’ planting, the rest smoked. There was a sensible prohibition on young men smoking it because it made them “poor runners.” R. Douglas Hurt, *Indian Agriculture in America: Prehistory to the Present*, (Lawrence: University Press of Kansas, 1987): 61. The seeds and tobacco may have been different products as *Lobelia inflata*, or Indian Tobacco, was grown for its seeds which taste like tobacco. Plains Indians also grew true tobacco, several varieties of *Nicotiana* from which the commercial varieties were derived. Daniel E. Moerman, *Native American Medicinal Plants*, (Portland OR: Timber Press, 2009[1998]).

⁷⁵ The Arikara are a Caddoan language group related to the Pawnee. Both groups were agriculturalist.

⁷⁶ Meriwether Lewis, July 5th 1806: *The Definitive Journals of Lewis and Clark: Over the Rockies to St. Louis Over the Rockies to St. Louis*, Vol. 8, Edited by Gary E. Moulton, (Lincoln: University of Nebraska Press, 1995): 90.

⁷⁷ James E. Sherow, “Workings of the Geodialectic : High Plains Indians and Their Horses in the Region of the Arkansas River Valley, 1800-1870,” 61-84, *Environmental History Review*, (Summer, 1992).

Human agency in the form of raiding and trading for horses was responsible for these mustangs 500 miles above the Platte River.⁷⁸ In 1738-39 La Vérendrye *pere* reported no horses among the Mandan, but his sons reported horses there in 1742.⁷⁹ This marked the advent of the horse on the upper Missouri. By 1804-06 L&C reported all groups having horses, although many smaller bands or war parties appeared not to have them. The Mandan kept their horses alive through the winter by taking them into their houses on the coldest days, and feeding them cottonwood. The Missouri groups also all had firearms; one typical hunting party of nine had five 'fusils'. Perhaps the Cheyenne then uniquely qualified as the 'classic model' Plains Indian horse-riding and firearm-carrying group along the Missouri;⁸⁰ the Blackfoot to the west certainly qualified. This would help account for Cheyenne persistence in the face of Teton aggression. The Siouan horse and gun cultural complex was still forming in 1806.

Clark Wissler wrote that the horse was merely an "intensifier" of Plains Indian culture.⁸¹ Completely misunderstood in his hypothesis was the central role of agriculture in maintaining Plains aboriginal life and culture pre-horse. Several agricardos groups had long-term stable locality and large population pre horse. L&C show those groups being rent asunder by incoming groups with, and without, horses. Certainly the firearm was a factor in warfare, but all groups on the Missouri had them.⁸² It seems more likely that the horse was a destructive force both internally and externally for agricardos.⁸³ In the words of Pekka Hämäläinen, horses brought

⁷⁸ Theodore Binnema discusses horses in *Common & Contested Ground: A Human and Environmental History of the Northwestern Plains*, (Toronto: University of Toronto Press, 2001). Binnema followed the lead of Frank Secoy's epochal *Changing Military Patterns on the Great Plains*. This model has horses moving northward after the Pueblo Revolt with and without human assistance.

⁷⁹ Clark Wissler, "The Influence of the Horse in the Development of Plains Culture," 1-25. *American Anthropologist* (16:1, 1914): 2-4. Wissler was handicapped by working from New York libraries exclusively and had no access to Spanish sources.

⁸⁰ William Clark, August 22, 1806. Vol. 8: 318ff. While they were "rich in horses" the Cheyenne were also rich in dogs which they used for transport.

⁸¹ Wissler (1914): 14. Canadian historian Frank Gilbert Roe followed in Wissler's footsteps with *The Indian and the Horse* (Norman: University Press of Oklahoma, 1955).

⁸² For a still important study of the conjunction of horse and gun on the Plains milieu see, Frank Raymond Secoy. *Changing Military Patterns of the Great Plains Indians*, (Lincoln: University of Nebraska Press, 1992[1953]). Secoy concentrates on the horse and gun military complex at the expense of agriculture as a factor.

⁸³ See the discussion in Elliott West beginning with, "Unfortunately, a horse also has disadvantages." *Contested Plains: Indians, Goldseekers, and the Rush to Colorado* (Lawrence: University of Kansas Press, 1998): 53.

“new possibilities [but also] destabilization, dispossession, and destruction.”⁸⁴ Jim Sherow wrote that while the horse “both strengthened and weakened the material culture” of High Plains groups, the results were “maladaptive horse maintenance strategies[.]”⁸⁵ All groups examined relied on bison for protein in addition to grown foods, and the horse had a deleterious effect on crops as well as multiplying the game sink effect on bison. Horses were direct competition for bison, if not in terms of favored grass type, then certainly to other browse and access to sheltered valleys. Wissler thought that “very few...Plains tribes...permanently shifted their homes during the period 1680-1860.”⁸⁶ This notion has been thoroughly disproven herein. All agricardo groups surveyed to this point but for the Pawnee were either defunct (Jumano, Taino, Quivaran, Padouca), or were in the process of moving or disappearing in the face of massive change (Caddoan, Osage, Kansa, Mandan). A much more complicated and truer picture emerged in John C. Ewers’ work. Ewers saw the trading connection between agricultural people and less settled “nomadic” groups as a structural component of Plains culture. While the spread of horses north through the intermountain was partly ‘natural’, the transmission of horses across the Plains was demonstrably a result of inter-group trade through networks that “antedated the introduction of the horse[.]”⁸⁷ The agricardos centres of trade were the pivots through which the horse spread north, but then the horse itself contributed to the demise of the agricardos.

⁸⁴ Pekka Hämäläinen, "The Rise and Fall of Plains Indian Horse Cultures," 833-62. *Journal of American History* (2003): 834.

⁸⁵ Sherow (1992): 81.

⁸⁶ Wissler (1914): 13.

⁸⁷ John C. Ewers, "The Acquisition of the Horse," In, *The Horse in Blackfoot Culture*, 1-15. (Washington: Government Printing Office, 1955). Ewers took advantage of many Spanish texts.

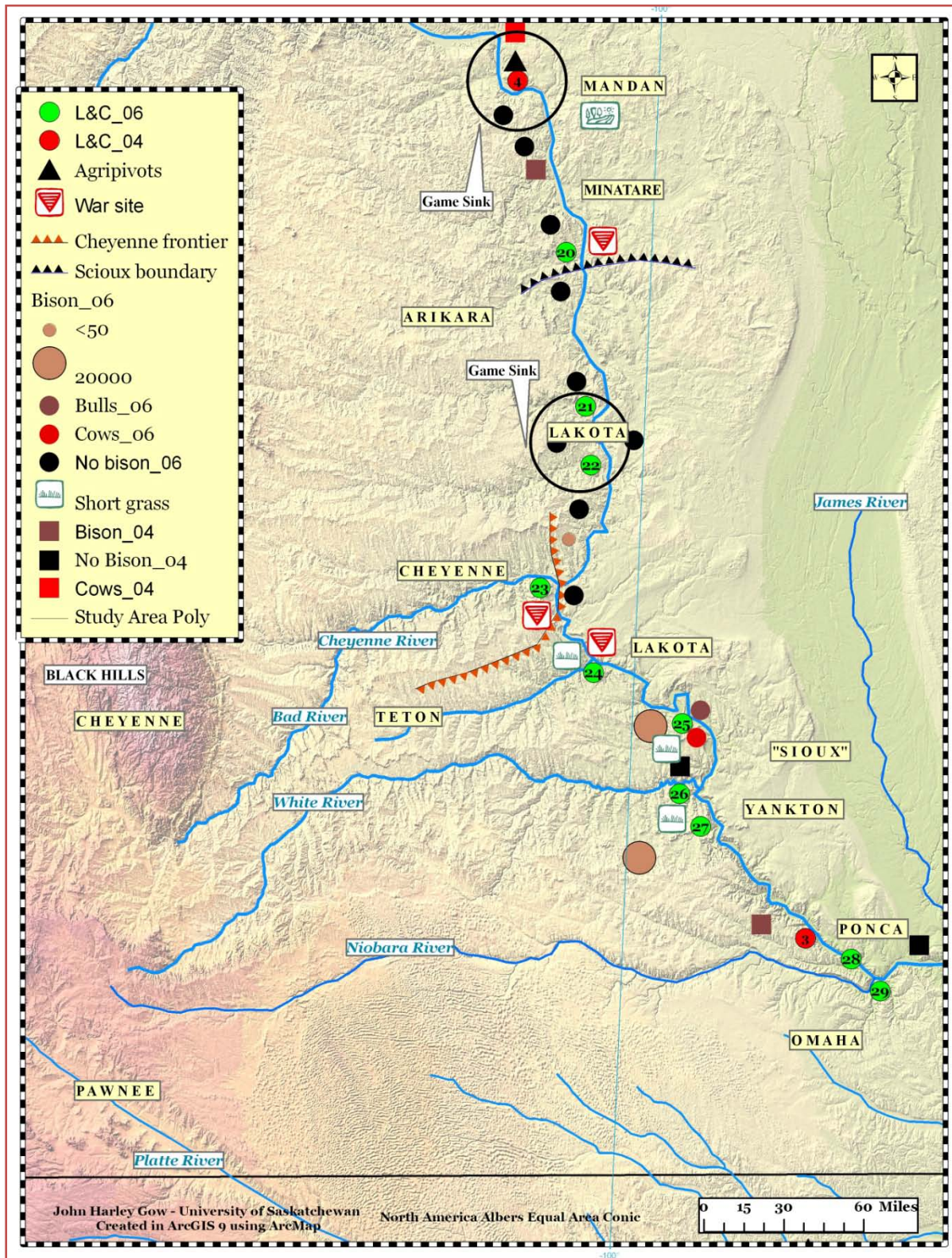


Figure 8.7. Lewis and Clark Data.

This expedition suffered greatly from food privation at many points, as did the aboriginal groups encountered. Members resorted to digging roots, buying dogs, and eating their horses in some cases.⁸⁸ Bison were often not available. Like other argonauts, L&C preferred cow meat to bull. They encountered the first bison at a “large and handsome” prairie July 24, 1804 [2].⁸⁹ They knew of Osage having gone to hunt bison, but this was the first animal seen. Elk and deer had been the primary objects of the hunt to this point. They saw the next bison on islands in the Missouri 100 miles upriver [3]. October 27 1804 they struck the Mandan towns [4]. Between these two points they were able to hunt bison a few times, but generally killed deer, elk and “goats”, or pronghorn. Bison observations tended to be of small groups and not herds. At Fort Mandan where they wintered until April 1805, they occasionally found bison by hunting two or three days out of camp. That they resorted to hunting wolves and hares for food indicates the scarcity of bison. That game was so scarce close to a large fixed human settlement, the Mandan agricardo, is not surprising as such “game sinks”⁹⁰ are evident around agricardos discussed in this paper.

They mentioned bison cows when they were found. December 8th 1804 around Fort Mandan Clark saw “great numbers of Buffalow Comeing into the Bottoms on both Sides of the river,” among which were some cows.⁹¹ By the 14th they noticed that the cows had “left the River”. January 9 1805 Lewis reported they “killed a number of cows near the fort,”⁹² being the last report of bison cows until their return trip. During the winter of 1805-06 they ate something called “cows” which was a root. By spring they were reduced to eating rancid “cows” as they had no other food.⁹³ On their return August 6th 1806 they were overjoyed when they were able

⁸⁸ Gass, 127. They bought and ate some 200 dogs and ate twelve horses and one wolf en route. Clark wrote that their daily food requirement was 4 deer, or an elk and deer, or “one buffalo.” Raymond Darwin Burroughs, ed. *The Natural History of the Lewis and Clark Expedition*. East Lansing: Michigan State University Press, 1995[1961]. Burroughs book is rather misnamed and should have been titled “The Beastiary of the L&C Expedition.” It was common for writers of natural history to overlook grass, trees, and weather in favor of more charismatic beasts.

⁸⁹ Gass, July 24, 1804. Vol. 10: 31

⁹⁰ Paul S. Martin, and Christine R. Szuter, “War Zones and Game Sinks in Lewis and Clark's West.” *Conservation Biology* (13: 1 1999): 36-45. Essentially, hunters tend to hunt the most efficient packages of protein first and relentlessly, switching to other species when necessary. Bison appears to have been the universal first choice of Plains hunters and diners regardless of group.

⁹¹ William Clark, December 8, 1804. L&C Journals Online.

⁹² Lewis, January 9, 1805. L&C Journals Online.

⁹³ Lewis, July 23, 1806. Near *Grand Forks, MT* [47°30' N x 111°20'W].

to kill “three fat cows.” They observed a “white bear” (grizzly) hunting bison and dead bison floating down the river. Presumably a large herd was crossing the Missouri above this place [5]. They reported game of all sorts here and it seemed their hungry days were behind them, but they were mistaken and they would find bison cows on their return only at the James River.

27 August 1806 their food was exhausted and they found the river bottoms “entirely beaten up and the grass laid flat by the emence number of buffalo which had been here a Short time past. The deer had left the bottom” as well.⁹⁴ They passed the Big Bend midday [2] where they found a few bulls, and “killed two Cows one bull and a Calf neither of them war fat[.]” Clark noted the plains were “thinly timbered and covered with low grass without misquitors.”⁹⁵ This site is 150 miles directly east of the Black Hills. The next day after passing the White River the hunters “killed 2 bulls near me they were very por.”⁹⁶ The same day Clark

ascended to the high Country and from an eminence I had a view of the plains for a great distance. From this eminence I had a view of a greater number of buffalow than I had ever Seen before at one time. I must have Seen near 20,000 of those animals feeding on this plain. I have observed that in the country between the nations which are at war with each other the greatest number of animals are to be found[.]⁹⁷

Clark’s important observation gets to the nature of bison numbers and location before the westering impulse seized Americans in the 1840s. All argonauts referred to seeing animals, groups, gangs, herds, et cetera. No argonaut from de Vaca to L&C saw a herd approaching 100,000 animals or else they surely would have noted it. For Clark to say that this was the largest herd he saw in his travels is emblematic. The Plains were home to several million bison before 1820, spread out along waterways and on short grass ranges in groups that were usually gender-separated and numbered in the hundreds to thousands of animals. By 1806 the animals were confined to west of the Mississippi/Missouri but for remnant herds to the east in Illinois territory, as evidenced in part by the great Siouan expansion across the Missouri.

The second part of Lewis’ note, that bison numbers—indeed all large game animal numbers—were greatest between zones of conflict is the first iteration of this thoughtful

⁹⁴ William Clark, August 27, 1806. Vol. 8: 325.

⁹⁵ William Clark, August 28, 1806. Vol. 8: 326.

⁹⁶ William Clark, August 29, 1806. Vol. 8: 327.

⁹⁷ William Clark, August 29, 1806. Vol. 8: 328.

observation. Later journalists including Richard Dodge, Dr. F. Wislizenus,⁹⁸ and Captain John C. Frémont would all notice this phenomenon. The journals reveal two northern plains game sinks, one around the Mandan towns caused by year-round hunting by this large settled group and their many visitors. The second was where groups of Arikara, Cheyenne, Mandan, and Minatare all camped and hunted in relative peace. Hunters could travel two days from the former before finding game in winter. It was at the Cheyenne boundary with the Teton that L&C noticed great areas of heavily grazed grass, and then below that the greatest herd of bison they would witness. During the next few days of travel, Clark fretted over encountering groups that included the Sioux, Yankton (Sioux), Teton, Mahar Pania (Pawnee), Ponars (Ponca), and Mahars (Omaha), none of whom felt safe enough to camp here. This is also the only point they reported cows. The correlation between the huge herd and open warfare evidences a bison paradise made out of human conflict. Their descriptions of grass and terrain do not suggest any environmental reason for bison abundance here. This region was a frontier *sans pareil* as some six or seven cultural groups met and fought over this region. Control of the river was important to the fur trade, but no group controlled the river. Fighting for access to the diminishing bison range was a major factor in its importance.⁹⁹

Is it surprising the largest herd they encountered contained “20,000 of those animals feeding,” rather than hundreds of thousands? Like the southern plains, bison cows frequented the foothills in spring and summer. They were also found towards on the upper Missouri in deep winter, but in small numbers. Running into large herds of bison, at least along the river routes, was a rare and sporadic occurrence. They went great stretches without seeing bison. There were large herds but they broke into smaller groups in spring and winter. River valleys drew the animals in winter. They discovered a small herd of cows near the James River on their return. Cows were associated with the short grass plains and foothills according to the experiences of Lewis & Clark.

⁹⁸ F. A. Wislizenus, M.D., *A Journey to the Rocky Mountains in the Year 1839*, (Glorieta, NM: Rio Grande Press, 1969 [1912]).

⁹⁹ For further discussion of game sinks and war zones see: Martin and Szuter (1999); Joe Truett. "Bison and Elk in the American Southwest: In Search of the Pristine," 195-206. *Environmental Management* (20: 2 (1996); and especially, Dan Flores. "Bison Ecology and Bison Diplomacy: The Southern Plains from 1800 to 1850." *Journal of American History* *Journal of American History* (1991): 465-85.

September 23, 1806, the expedition returned to St Louis, and was feted by the locals at Christy's Tavern to a banquet that featured eighteen toasts.¹⁰⁰ From St. Louis however, Lewis and Clark rather more crept home than returned as conquering heroes. For, as remarkable an achievement as their transit was in terms of adventure, they found neither Garden nor Northwest Passage.

The Louisiana Expeditions: Dunbar & Hunter, 1804-1805; Freeman & Custis, 1806.

While Jefferson organized the Corps of Discovery, he was also planned its mirror image, a Grand Expedition to test the limits of Louisiana Purchase, the Red River, and the Spanish tolerance for American argonauts in the disputed region.¹⁰¹ Jefferson regarded the Red River, the path of which was then entirely speculative, as being "next to the Missouri, the most interesting water of the Mississippi."¹⁰² Many expansionist or internationalist Americans then believed that New Mexico was a potential font of trade wealth and that the Red River would prove to be the best route there.¹⁰³ It would be Pike, sent by General Wilkinson and not President Jefferson, who proved the Arkansas River/*Santa Fe Trail* to be that route. Louisiana traders believed that the Red River headed in the mountains near Santa Fe, and there existed "strong cartographic evidence" backing that erroneous conception.¹⁰⁴ Humboldt provided Albert Gallatin with his then unpublished map which mistook the Red River for the *Canadian* and conflated the *Canadian*, Pecos and Red Rivers into one, the "Rio Rojo de Natchitoches."¹⁰⁵

¹⁰⁰ Moulton, Vol. 8: 4.

¹⁰¹ William Dunbar and George Hunter. *The Forgotten Expedition, 1804-1805: The Louisiana Purchase Journals of Dunbar and Hunter*. Edited by Trey Berry, Pam Beasley, and Jeanne Clements, (Baton Rouge: Louisiana State University Press, 2006): xi.

¹⁰² Letter, Thomas Jefferson to William Dunbar quoted in Dan L. Flores, ed., *Jefferson & Southwestern Exploration: The Freeman & Custis Accounts of the Red River Expedition of 1806*, (Norman: University of Oklahoma Press, 1984): 8.

¹⁰³ See the discussion in Flores (1984): 18ff.

¹⁰⁴ Flores (1984):18.

¹⁰⁵ I concur with Dan Flores that Humboldt was ignorant of the travels of Vial and company. Humboldt did his research in Mexico City and, as discussed above, New Mexican and Tejan documents went to several archives including Havana and Seville. In terms of understanding the Study Area, Mexico's left hand (New Mexico) never shook hands with its right (Louisiana).

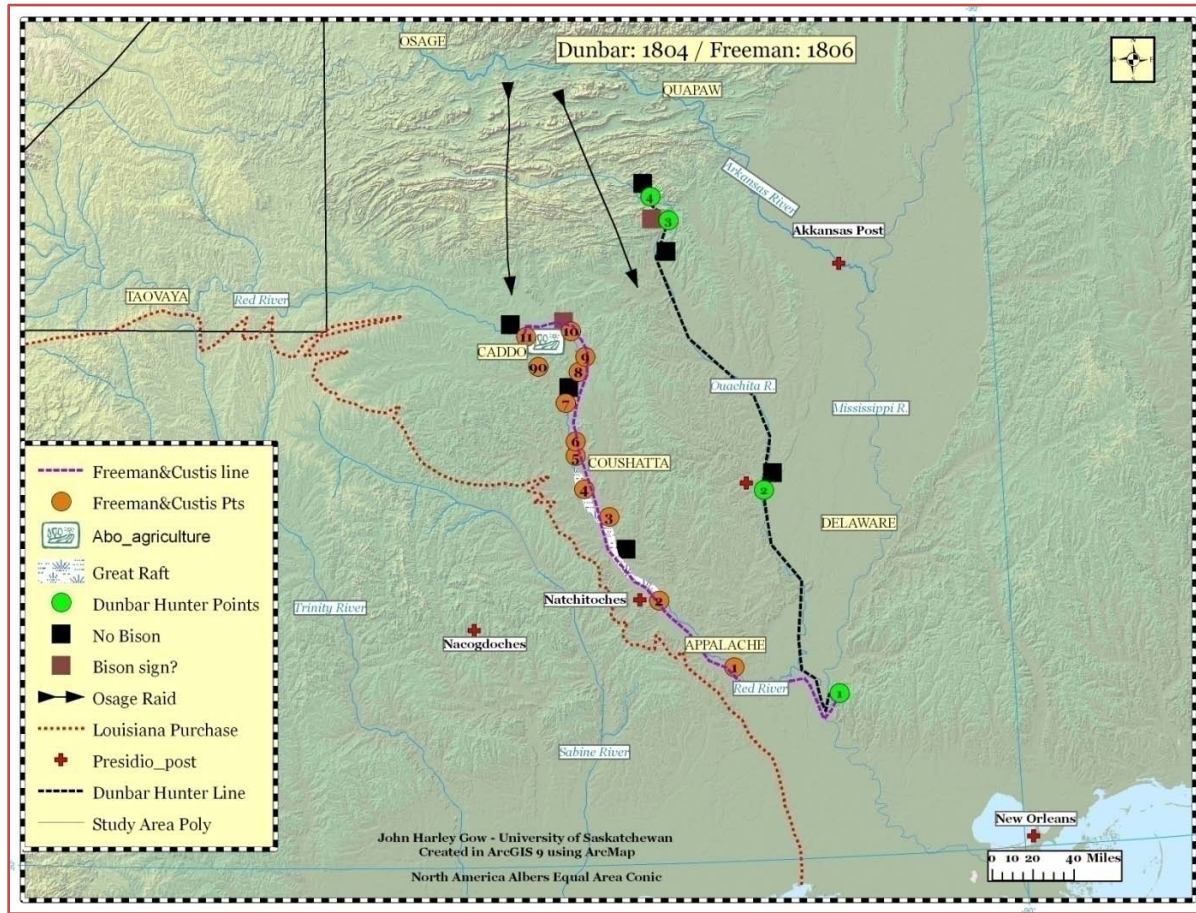


Figure 8.8. Louisiana Purchase Routes.¹⁰⁶

The President's plan was to send the 'Jefferson of the South,' the "gentleman scholar" William Dunbar,¹⁰⁷ in company with scientist George Hunter to navigate the Red River from the Mississippi to its head. Ideally they would then descend the Arkansas; "known" to head nearby that of the Red River.¹⁰⁸ Dunbar had earlier been hired by Spain to survey the Louisiana

¹⁰⁶ This map shows the routes of Jefferson's southern expeditions to ascertain the extent and location of the Louisiana Purchase. The Spanish and not geography or aboriginal action kept the Americans from exploring their new territory. There are no fixed boundaries on the map yet; the Louisiana Purchase polyline above shows the height of land draining to the Red River and not set boundaries. In real terms, American settlement was but a hundred miles from the southeast corner of this Study Area, and quite remarkably by 1806 no American argonaut had yet mapped the Red River beyond its Great Bend from the west.

¹⁰⁷ My term, Dunbar was a wealthy property and slave-owner with scientific and cultural interests much like Jefferson. The "gentleman scholar" quote, Berry (2006): xix.

¹⁰⁸ Berry (2006): xxi.

Purchase “line of demarcation” at 31°. ¹⁰⁹ While no American knew the Study Area geography, both Jefferson and Dunbar well knew the projected route would “skirt and in some places enter lands claimed by Spain.” ¹¹⁰ This likely accounts for Dunbar’s actual route which, rather than heading the Red River, settled for tracking the Ouachita (Washita) River to an already popular *Arkansas* hot springs. Another mitigating factor was that the Arkansas Osage group under Big Track was then understood to be threatening travelers. ¹¹¹

While Jefferson was enthusiastic about the *written* results of the so-called and much diminished Grand Expedition, it must have been a disappointment that they never actually ascended the Red, much less descended the Arkansas; Dunbar and Hunter (after, D&H) were however well remunerated for their efforts, likely lessening the sting of defeat. ¹¹² This was in reality more of a holiday-ranch traipse than a *Grand Expedition*. This is a great pity because they kept very interesting journals with some good environmental observations, qualified by the fact that, like Lewis and Clark, Dunbar and Hunter was a marine outfit and rarely left the banks of the Ouachita. They did not report on the plains, limiting the utility to this paper.

On October 16, 1804 Dunbar, Hunter and thirteen soldiers, two slaves, a man-servant, and “Hunter’s teenage son” ¹¹³ set sail from below Natchez. They dropped down the Mississippi to Fort Adams, then struck the mouth of the “red river”. Their extraordinarily inappropriate mode of transport, specially commissioned by Hunter, was 50’ feet long with 36’ mast and a sail “in the Chinese Stile”, ¹¹⁴ meaning square-rigged. The soldiers became near mutinous at the daily effort of dragging the monstrous boat through sandbars and muddy channels. A few days out they “captured a runaway slave” and pressed him into service although they had to turn him

¹⁰⁹ Berry (2006): 8, n 4. Nothing better indicates the blurry borderlands between Spain and the United States than Spain would hire Americans to survey this boundary. Of course it also indicates how incapable Spain was of putting Spanish boots on the ground in Louisiana. Spanish Governor Gayoso de Lemos oversaw a team of four Americans.

¹¹⁰ This being a bit disingenuous. Berry (2006): xxi.

¹¹¹ Letter, Jefferson to Dunbar, July 1804. Berry (2006): xxii. See section on Wilkinson below.

¹¹² The expedition received funding of \$3000 from Congress, of which a remarkable \$1400 went to Dunbar and Hunter for salary and \$300 went to outfitting. These figures and Jefferson’s praising Dunbar in spite of the truncated nature of the expedition make this writer suspect class solidarity may have been a factor.

¹¹³ Berry (2006): xxiii. The editors’ anachronistic use of “teenage” is unfortunate and muddies the reality of the Plains where there were adults and children. Obviously if Hunter’s son was a child he would not have been on the journey.

¹¹⁴ Letter, Hunter to Dearborn, June 14, 1804. Berry (2006): xxiii.

over to his owner ten days later. November 6th they reached the Ouachita Post or Fort Miró.¹¹⁵ Established by the French as a trade post in 1784, it had just been turned over to the Americans in early 1804. Its inhabitants were American soldiers and “Canadian French” settlers.¹¹⁶ Here they abandoned their ark for a more suitable vessel.

November 9 they set out in their new boat with a hired guide, Samuel Blazier, who supplied the place names for the “many sites” they observed.¹¹⁷ On December 8th they reached the hot springs they had been seeking, now *Hot Springs Park, OK*; as close as they would get to the Study Area. Dunbar was outfitted with the latest in navigational aids including several compasses, a chronometer, and a sextant that Hunter could not master.¹¹⁸ Dunbar and Hunter were fairly good at figuring direction (rising sun, compass), very good at figuring latitude (chronometer, quadrant), and hopeless at figuring longitude (chronometer, sextant).¹¹⁹ They gave daily directions of travel, regular latitudes, but rarely added longitude. Knowing the sites of Fort Miró and *Hot Springs OK* allows us to check their figures. Hunter had Fort Miró at “32°, 29', 57'”¹²⁰, and its location is 32°30'18"N.¹²¹ The one example of longitude was the junction of the Red and Mississippi Rivers figured by one “M de Ferrer [at] 6h 7 11” west of Greenwich.”¹²² Allowing for the ever-shifting channel of these rivers, that was likely correct in 1804 at 91°47'24”west; the present junction is some fifteen miles south of the then junction.¹²³ The calculations for longitude were so onerous that Dunbar hoped to do those calculations after he had returned home.¹²⁴

On the up the Ouachita they encountered medical or health tourists, individuals and groups making for the hot springs’ healing waters. Nothing flies in the face of Turner’s Frontier Thesis more than this observation that health tourists preceded the yeoman farmer. This is explained in part by the complete absence of aboriginal presence on the route. Dunbar and

¹¹⁵ Now, Monroe LA, [92°6'8"W x 32°30'16.61"N].

¹¹⁶ Hunter, Berry (2006): 45.

¹¹⁷ Berry (2006): xxv. They were more of an observation than exploration enterprise.

¹¹⁸ Letter, Dunbar to Jefferson, November 1804. Berry (2006): xxiv.

¹¹⁹ Unlike the British, the Americans at this time had no reliable chronometer, key to figuring longitude.

¹²⁰ Hunter, 6 November 1804. Berry (2006): 45.

¹²¹ The site is a historical marker, Google Earth. Longitude 92°6'22.453"W.

¹²² Dunbar, 17 November 1804. Berry (2006): 9. Thanks to my office mate and Geographer Andrew Dunlop for helping with these baffling bits. One hour = 15° longitude (24x15=360°).

¹²³ Figured by the site of Fort Adams MS, then some fifteen miles south of the junction, now a few miles to the north. Since the fort site is/was on the highlands it likely has not moved. Google Earth.

¹²⁴ See the essay “Explanation of navigational techniques,” 213-218. Berry (2006).

Hunter pointed out numerous sites of aboriginal “hieroglyphics,” burial mounds, known “hunting grounds,” bois d’arc wood and salt gathering, but no living beings. A trader they encountered warned them of Osage on the “arcansas”, but that was 130 miles to the north. Dunbar noted the “massacre of the Natchez tribe by the French” in conjunction with good lands, “prairies are planes or savannahs without timber, generally fertile[.]”¹²⁵ Perhaps Dunbar was baffled by unoccupied but obviously fertile lands. The lower Red and the Ouachita Rivers to 34°30’ N were cleared of aboriginals by 1804. While aboriginal warfare and euramerican actions partially account for this, it seems this place on various now centuries-old frontiers had suffered the full brunt of epidemic disease.

Not coincidentally, they did not kill one bison on their trip. They noted “bison sign” here and there but only at one point, on December 21 at *Hot Springs*, did hunters report shooting but not killing two bulls.¹²⁶ Neither Dunbar nor Hunter saw these animals. The expedition however was “never without fresh provisions,” turkey and deer being readily available. That D&H at times ascended heights where they could see distances of 40-50 miles is evidence that there were no herds along the Ouachita River by that time. The editors noted that the “last buffalo herd in southern Arkansas was killed in the Salinas River bottoms around 1809”. Neither did they report feral horses or cattle. Hunter did report the Canadian French households at Fort Miró had “from thirty to 100 Cows” each, but no horses. These settlers otherwise hunted for food as their “want of forethought and industry” kept them from planting crops.¹²⁷

While the absence of aboriginals meant that they observed no set fires, Dunbar did comment:

When a piece of ground is once got into this state [fertile grassland] in an indian country, it can have no opportunity of producing timber; it being an invariable rule to fire the dry grass in the Fall or winter, to obtain the advantage of attracting game when the young tender grass begins to spring; & thus the young timber is destroyed, & annually the prairie gains upon the wood land; it is probable that the immense planes known to exist in America may owe their origin to this practice.¹²⁸

¹²⁵ Dunbar, November 25, 1804. Berry (2006): 24.

¹²⁶ The historical record is full of sightings of “bison sign” in places where there were no bison. Erhard Rostlund, “The Geographic Range of the Historic Bison in the Southeast,” 395-407, *Annals of the Association of American Geographers* (50: 4, 1960): 397ff.

¹²⁷ Hunter, December 7, 1804. Berry (2006): 45.

¹²⁸ Dunbar, December 25, 1804. Berry (2006): 25.

Dunbar was exactly right in seeing the role of fire in keeping brushy cover at bay. Also his recognition of the conscious Indian role in this process is exceptional for the times. Dan Flores found that Jefferson held the notion that Indian burning *created* the Great Plains.¹²⁹

Dunbar and Hunter gave no direct view of the Study Area but supply some interesting observations on how the plains were perceived at that time. The riparian approaches to the Southern Plains were closed to Americans; the Osage ruled the Arkansas, the Spanish the Red. However, these journals were instrumental in publicizing a short treatise in favor of the Great Plains as Garden.

On descending the Ouachita, the expedition met with M. Le Fevre, otherwise unidentified, who traded with the “Delaware & other Indians[.]”¹³⁰ Le Fevre accompanied them to Fort Miró during which time he regaled them with tales of “the interior of the Country”, of which he possessed “considerable knowledge”¹³¹:

The hills or mountains which give birth to...the Arcansa river...are in a manner insulated [or] enclosed by the immense plains or prairies which extend beyond the red river...to the South & beyond the Missouri...to the north and range along the eastern base of the great chain or dividing ridges...which separate the waters of the Mississippi from those which fall into the western pacific ocean. The breadth of this great plain is not well ascertained, it is said by some to be at certain parts...two hundred leagues [600 miles], but I believe...the mean breadth is at least [134 leagues/400 miles]. A branch of the Missouri called the plate or shallow river takes its rise so far to the South, as to [head from] the sources of the red and arcansa river.

By the expression planes or prairies...is not to be understood a dead flat resembling certain savannahs...often under water & bearing only a coarse grass resembling reeds[.] [V]ery far different are the western Prairies, which expression signifys only a country without timber; These Prairies are neither flat nor hilly, but undulating into gently swelling lawns and expanding into spacious vallies [with] a little timber growing upon the banks of brooks and rivulets of the finest water. [Underneath,] the richest and most fertile soil, the most luxurious and succulent herbage [and et cetera].

This Paradise is now only very thinly inhabited by a few tribes of Savages and by immense herds of Wild Cattle [which] perform regular migrations according to the seasons from south to north, and from the planes to the mountains...those tribes move in the rear of necessity... *this rich and desirable Country ... the whole of it being cultivated,*

¹²⁹ Letter, Jefferson to John Adams, 1813. Quoted in Flores (1984): 210, *n* 46. As Flores noted no American explorer had then progressed far enough west to observe the obvious role of mountain erosion in Plains formation.

¹³⁰ Dunbar, January 10, 1805. Berry (2006): 166.

¹³¹ Dunbar, January 10, 1805. Berry (2006): 167.

*it will admit of the fullest population, and will at a future day vie with the best & most populous countries on the Globe*¹³² (Italics, mine).

These reports became publicly known, finding their way into Jefferson's hands and the newspapers of the day.¹³³ Dunbar and Hunter did not propagate the myth of the Great American Desert. Contrariwise, their reports fell firmly on the side of the West as Garden mythology, and were employed accordingly. The Region of Fable was alive and well in 1805; the Garden beckoned seductively, and Deserts were as yet nowhere in sight. The course of the Red River was still a mystery, but *almost* "all the supportive evidence available to the Americans"¹³⁴ supported the conclusion that the Red rose in the mountains near Taos and was therefore a 'highway' from Louisiana to New Mexico. Further to those utilitarian hopes, the Red was key to figuring the southern boundary of the Louisiana Purchase. Dunbar believed the Red River formed the southern boundary from Arroyo Hondo (about 93°) west to the "Northern Andes."¹³⁵

Freeman and Custis, 1806.

Freeman and Custis finally provided Jefferson with the answer to the riddle of the Red and the southern limits of the Louisiana Purchase. He was to be disappointed with the results. Jefferson would have been happy if someone of his valiant argonauts had set foot on the Central Plains! Freeman and Custis came close, a hundred miles from the Study Area, but the sum total of their findings would be that while the US claimed to be the *de jure* owners of the Plains west of 94° longitude, the Spanish were the *de facto* gatekeepers to the Plains—at least on the Red River.

The documents produced by the expedition are enumerated in the "Document and Editorial Procedures" chaplet in Flores' *Jefferson & Southwestern Exploration*. The expedition journal and reports were heavily edited and redacted by Nicholas King in Washington prior to publication. Flores found original dispatches and restored much of that material, and his book compares several versions of Freeman and Custis reports and journals, forming a trip narrative.

¹³² Paragraphs imposed by this writer. Dunbar, January 10, 1804. Berry (2006): 167-168. M. Le Fevre reportage is suspect as he also reported having personally seen a unicorn.

¹³³ Berry (2006): "Notes on Sources and Editorial Process," 219-222.

¹³⁴ Flores (1984):19. Flores wrote "all the evidence," including Humboldt's map. I think Humboldt hinted that there were problems with this thesis.

¹³⁵ Isaac Joslin Cox. "The Louisiana-Texas Frontier," 1-75. *The Quarterly of the Texas State Historical Association* (10: 1, 1906).

Flores injects extensive and excellent notes, cross-referencing the various accounts and adding historical and environmental context; this is one editor who values the environmental data in journal sources.¹³⁶ Freeman and Custis created “the most accurate map produced by any of the early American explorations.”¹³⁷ It is a great pity they did not go further west.

This was yet another marine expedition, its observations truncated accordingly, as Freeman wrote, observing country from a river “whose banks are generally elevated considerably above the surface of the water” confines the remarks to that “which art or accident” brings within view.¹³⁸ They left Ft. Adams April 28, and floated down the Mississippi to the Red River, following Dunbar’s course, to the mouth of the Red River. Unlike Dunbar, they proceeded up the Red. At *Alexandria LA* they found a village of “Appalaches”, immigrant Indians from Florida “on the frontiers of Georgia.” Freeman figured they were “rapidly advancing towards civilization,” as they grew crops and had “horses, cattle and hogs.”¹³⁹ These lands were formerly home to Caddo groups, now disappeared. Six miles up from the falls they found another village of immigrant Indians, the “Pasquegoulas,” on both sides of the river.¹⁴⁰ Just above the villages, the Red split into two channels, one navigable, the other jammed with “rafts of timber.”¹⁴¹ Here they also found large amounts of cane. Above the junction were small farms whose owners were “a mixture of French, Spanish, Indian, and Negro blood, the latter often predominating[.]”¹⁴² On May 19, 1806 they struck the “town and fort of Natchitoches,” and located it at 31°43’5”, precisely accurate [2].¹⁴³ Here they consulted with regional expert, army contracting surgeon, and “Part-time Indian agent” John Sibley.¹⁴⁴ While Natchitoches was the last American post heading west, it was also the last Spanish outpost heading east, a true borderlands site. Notices were sent from here to Spanish military adjutant

¹³⁶ Flores did not include dates in the journal compendium. Matching observations to dates would require a return to the original sources.

¹³⁷ Flores (1984): 94.

¹³⁸ Freeman, Flores (1984): 101.

¹³⁹ Freeman, in Flores (1984): 112.

¹⁴⁰ Pasacagoulas, a Muskogean group who located here “before 1791,” according to Frederick Hodge. In Flores at 113, *n* 44.

¹⁴¹ Freeman, in Flores (1984): 115.

¹⁴² Freeman, in Flores (1984): 118.

¹⁴³ From the journal, “Places” layer.

¹⁴⁴ F. Todd Smith, *The Caddo Indians: Tribes at the Convergence of Empires, 1542-1854*, (College Station: Texas A&M University Press, 1995): 90. Jefferson appointed Sibley who was instructed to win the Caddo to America’s side.

Francisco Viana at Nacogdoches warning that two barges of Americans planned to ascend the Red River to “plant the American flag...higher than the place where [filibuster] Don Felipe Nolan was killed, with the object of acquiring land and mines.”¹⁴⁵

While we do not know how many arrived with Freeman, it was a small exploring party on one boat, but upon departure they were a military outfit numbering “40 men, three commissioned & four non-commissioned officers” on “7 boats”.¹⁴⁶ Custis expected that the Spanish would “endeavor to stop” them; his intelligence was correct. Considering they took food and supplies calculated to last ninety days, they did not rely on hunting. Freeman reported pecans, cottonwoods, mulberry, and other trees above the town, and plantations on both sides of the river. A ferry ran across the river, owned by John Sibley.¹⁴⁷ The ferry was needed because the river ran thirty feet deep, thirty yards across. Immediately above was the “first raft” of the Great Raft. From here on they fought their way through rafts of trees rising three feet off the river, packed so close “men could walk over it in any direction.”¹⁴⁸

Above Natchitoches at *Lake Bisteneau* they encountered a French grazier, M. Touline, who kept “numerous herds” of fine cattle, and marked the northernmost settler in 1806.¹⁴⁹ This location roughly confirmed by the next day’s observations putting them at 32° 26 5’3 N.¹⁵⁰ They waited a “day or two” for the river to rise, then fought on; they were only fifty miles from Natchitoches. They began to encounter prairies along the river now, reported on 21 June; they appeared to be making about a mile a day. This struggle explains why argonauts avoided the river route, and helps to explain historical trade networks. The evening of the 24th they fought

¹⁴⁵ Anonymous, “Letter to Viana,” June 2, 1806. Quoted in Flores (1984): 124.

¹⁴⁶ Custis, June 1, 1806, in Flores (1984): 125.

¹⁴⁷ Sibley would be a member of the long Expedition, 1820. He had travelled up the Red and reported on aboriginal groups. Sibley corresponded with Jefferson and reported on Burr, Wilkinson, et al. Seymour V. Connor, “Sibley, John,” *Handbook of Texas Online* (<http://www.tshaonline.org/handbook/online/articles/fsi02>), accessed January 16, 2011.

¹⁴⁸ Freeman, June 3, 1806, in Flores (1984): 131.

¹⁴⁹ Freeman, June 9, 1806, in Flores (1984): 139. Google Earth, Flores notes at 140. For a brief but interesting discussion of the Louisiana cattle complex see Terry G. Jordan, *Trails to Texas: Southern Roots of Western Cattle Ranching*, (Lincoln: University of Nebraska Press, 1981): 46-51. By the “late 1700s” French herders had *vacheries* as far north as Arkansas Post, having spread inland from the coastal plains. There would be no American cattlemen in these parts until “after about 1820.” Jordan has published extensively and entertainingly on all things bovine from a geographer’s perspective.

¹⁵⁰ Freeman, June 9, 1806, in Flores (1984): 140.

their way out of the Great Raft to clear water, “to the great joy of the party.”¹⁵¹ They had gone seventy odd miles in three weeks, and succeeded “contrary to the decided opinion of every person” who knew of their plan.¹⁵² The river above the raft was a “beautiful stream of 230 yards wide, 34 feet deep” bordered by Red Cedars, oaks and cottonwoods. Prairies stretched to the south and the north. On 26 June they arrived at a small village of the “Coashutta” (Alabama-Coushatta).¹⁵³ They received word from these people that “300 Spanish Dragoons, with 4 or 500 Horses and Mules” were somewhere just to the south.¹⁵⁴ They would press on through “almost impenetrable Swamps & Lakes for more than 100 miles” only compensated by “the beauty of the country.”¹⁵⁵ Custis opined that, should the raft be removed, this country would “become the Paradise of America.”

June 29 they were visited by the “Caddo Chief” and 40 of his warriors, all on horse. There ensued a long parley in which the unnamed Chief¹⁵⁶ was told the French had sold his homeland to the Americans. This Chief promised peace in noting it “had been a law...the blood of whites” would never be spilled on Caddo soil and while he lived it would not be.¹⁵⁷ Pragmatically, he added the Spanish could fight the Americans if they wanted, but he preferred it was done “on their own ground.” He warned the Americans they should also fear the Osage as they went forward; if they killed any Osage, the Caddo would “dance for a month.” The Americans were invited to the Caddo town with its “large, elegant & well-furnished houses” at “the Post.” This locates the town near Caddo post, established by Benard La Harpe on the Sulphur River in 1719 [90].¹⁵⁸ This was the likely frontier of Caddo lands, which the Spanish

¹⁵¹ Freeman, 24 June, 1806, in Flores (1984): 143. It does make one wonder why they insisted on the nautical route, having not only guides, but the best advice of Americans such as Sibley.

¹⁵² Freeman, 24 June, 1806, in Flores (1984): 143.

¹⁵³ Latitude given by Freeman at 32° 47'.

¹⁵⁴ Freeman, 24 June, 1806, in Flores (1984): 146. The Spanish troops numbered some 230.

¹⁵⁵ Custis, 29 June (?), in Flores (1984): 153ff.

¹⁵⁶ Sibley would identify this man as Dehahuit. Lewis & Clark were the great exceptions to this; they recorded seemingly every name of friend and foe.

¹⁵⁷ Custis, 30 June, 1806, in Flores (1984): 164. The Caddo kept the peace with euramericans since their first clash with DeSoto. This did not do them much good as their population fell from some 8,500 circa 1700 to 5-6 hundred by 1890. Perhaps they numbered around 1,500 in 1806. Russell Thornton, *American Indian Holocaust and Survival: A Population History Since 1492*, (Norman: University of Oklahoma Press, 1987): 130.

¹⁵⁸ On the Sulphur River, near *Texarkana*. Ralph A. Smith, ed. "Exploration of the Arkansas River by Benard De La Harpe, 1721-1722: Extracts from His Journal and Instructions." *Arkansas Historical Quarterly* (10: 4, 1951[1722]): 339-63.

seemed to be respecting. Custis wrote on 2 July that the “Caddoes are a very small race [meaning, few].”¹⁵⁹

Meanwhile, the Spanish borderlands were aflame with action; Custis wrote they seemed “to have thrown their whole Country into commotion[.]”¹⁶⁰ Apart from the previously mentioned troops, a thousand troops were sent from Chihuahua to *Tejas* arriving at Nacogdoches about July 15. Fecundo Melgares also set out from Santa Fe with 600 troops, 500 mounted, to first consult the Comanche then cross the Arkansas River and treat with the Pawnee. Coincidentally Zebulon Pike set out July 15 to map the Arkansas. Little wonder the Spanish were excited. Meanwhile, Freeman was in no hurry, and they stayed in camp until July 10, setting out on the 11th.

Freeman gave a glowing account of the Red River valley, saying it “cannot be exceeded in fertility or beauty, by any part of America,” and that “except for a few days in the year,” the land was “elevated above the rise of the water in the river.”¹⁶¹ Since the valley was “6 to 10 miles” across, the spring rise must have been substantial. These observations make a case for the long-term occupation of sites such as the Taovaya-Wichita agricultural towns. The Red must have acted very much like the Nile in bringing down nutrients to Indian gardens yearly. They noted the mouth of the Little River (*Sulphur River*) at “33 deg. 05 min[.]” La Harpe’s Caddo Post and the Caddo towns were up this river.¹⁶² The Red was running very clear in mid-July.

On 19 July they stopped at the site of a Caddo town razed by the Osage. This was the first place they notice “Buffaloe tracks,” the only mention of the animal on the journey; they never saw a bison.¹⁶³ They sighted prairies hereabouts, and noted the valley was “very rich”, and “very level”. Dan Flores speculated that the advancing Great Raft destroyed bison habitat lower down,¹⁶⁴ but the impact of such a localized phenomenon on bison number and location were negligible. There were no bison below the Great Bend of the Red in 1806; the last bison in the modern state of *Louisiana* was killed in 1803.¹⁶⁵ July 22nd they reached the mouth of the

¹⁵⁹ Custis, July 2, 1806, in Flores (1984): 169ff.

¹⁶⁰ Flores (1984): 173.

¹⁶¹ Custis, July 11, 1806, in Flores (1984): 176.

¹⁶² Freeman July 16, 1806, in Flores (1984): 181.

¹⁶³ See, Rostlund (1960): 397ff.

¹⁶⁴ Flores (1984): 190, *n* 16.

¹⁶⁵ Rostlund (1960): 406, *n* 58.

“upper Little River [at] 33°..36'..59"N.” This junction marks the westward Great Bend of the Red River.

This place was the epicenter of the Caddo world, evidenced by the names of constituent groups; Hasinai, Kadohadacho, and Natchitoches. Related Caddoan speakers included the Pawnee, Taovaya-Wichita, and Kichai, although these groups were “mutually unintelligible”¹⁶⁶ but for the Plains *lingua franca*, sign. Besides facing dire epidemics of cholera (1528, 1777/8), smallpox (1778), and measles (1803),¹⁶⁷ in addition to immigrant Indian and euramerican pressures, the Caddo also faced relentless imperialistic pressures from the Osage and associated groups from the north. In the inimitable language of the day William Newcomb called them “Barbaric Gardeners” as a compliment, as they “achieved a level of cultural development unsurpassed by other Texas Indians.”¹⁶⁸ These were the direct descendants of the Mississippian mound building culture. Their chosen environment was the edge habitat where they drew from the resources of forest belts, river bottoms, and edge plains, much like the Osage and Kansa. Besides having highly developed agriculture and material culture, the Caddo also maintained horse-herds and hunted bison.¹⁶⁹ The La Harpe post and trade had armed them with French firearms at the cost of exacerbating hostilities with their former allies the Tonkawa, for the French “paid well for native slaves.”¹⁷⁰ Here and elsewhere such as Quich, the French sited their posts adjacent to existing agricardos. The Caddo had large cornfields here growing around a lake; there were plum trees, and a “bunch of hemp.” The Caddo said the French had once had a “*small military post*” here.¹⁷¹ The conjunction of observed agriculture and the existence of trade posts indicate that this place was then, or more likely had been, a Caddo agricardo. Evidence suggests they had had a Type C agriculture, but now practiced a less intensive Type B. Freeman & Custis were not concerned with trade and carried masses of supplies with them, and so were not interested observers of the Caddo apart from their political usefulness.

¹⁶⁶ William Wilmon Newcomb, *The Indians of Texas: From Prehistoric to Modern Times*, (Austin: University of Texas Press, 2002 [1961]): 282.

¹⁶⁷ John C. Ewers, “The influence of epidemics on the Indian populations and cultures of Texas,” 104-115, *Plains Anthropologist* (18, 1973): 106.

¹⁶⁸ Newcomb (2002): 279.

¹⁶⁹ F. Todd Smith, *The Caddo Indians: Tribes at the Convergence of Empires, 1542-1854*, (College Station: Texas A&M University Press, 1995):12-15.

¹⁷⁰ Smith (1995): 42.

¹⁷¹ Freeman July 16, 1806, in Flores (1984): 196. Italics, Freeman’s.

That day they encountered the bulk of the Spanish forces under Viana, and this point marks the limits of their travel. Despite Dunbar's insistence that the Spanish "seemed to respect and fear" the Americans, the fact the Spanish had artillery, "150 horse," and many foot soldiers meant Jefferson's grand expedition was outnumbered by a factor of ten. The Spanish response was a singular one given the normally fractured nature of their territorial organization. That they sent troops from three directions, Tejas, Mexico and New Mexico, provinces that "did not always cooperate",¹⁷² indicates the seriousness with which they viewed the American enterprise and also a new determination to protect the north of Mexico.

On July 30th, Freeman & Custis began their descent of the Red River, and Freeman made a compendium entry extolling the virtues of a land—this Study Area—that he had not seen:

Above Red river is said to preserve nearly the same width for three or four hundred miles. The valley opens into level, rich, and almost continued prairies, where range immense herds of Buffaloe...The Panis [Pawnee] Nation are possessed of firearms, having smoothbored guns and ammunition, which they reserve for war, but never use in hunting...¹⁷³

The extensive prairies which are found in this rich and level country, appear to be owing to the custom which these nations of hunters have, of burning the grass at certain seasons. It destroys the bushes and underwood, and in some instances the timber...The small spots of wood with which these woods are interspersed, are found in the poorest spots, and on the margin of the water courses...[which] stops the progress of the flames. It is observed, that where these prairies are enclosed, or otherwise protected from fire, they soon become covered with bushes and timber trees, a circumstance which proves, that neither the nature of the soil, nor any other natural cause, gives rise to these extensive and rich pastures, with which Western America abounds.¹⁷⁴

Environmentally, the Red River approaches to the Study were cleared of bison populations by 1806. There were possibly remnant groups east of the Great Bend of the Red, but the herds had been extirpated through a combination of environmental factors and human presence and actions. Above Natchitoches graziers were beginning to establish beef herds that were likely a result of crossing feral cattle with imported animals. The presence of herd cattle on

¹⁷² David LaVere, and Katia Campbell, editors and translators. "An Expedition to the Kichai: The Journal of Francois Grappe, September 24, 1783," 58-78, *Southwestern Historical Quarterly* (98: 1, 1994): 65. That they had to pull these troops from other jurisdictions indicates that Tejas was still a faraway frontier.

¹⁷³ Flores believes this statement reflects the "cutoff of the traditional firearms trade from Natchitoches," but I think it also closely demonstrates the Plains Indian preference for bow hunting, and Comanche lance hunting, of bison. Flores (1984): 208, *n* 45.

¹⁷⁴ Freeman, 1806, in Flores (1984): 181.

the lower Red can be linked to cane brakes along the river; a “paradise” for cattle,¹⁷⁵ shunned by bison. The extirpation of bison and of Indian population hastened the loss of this region as a productive edge zone where the agricultural / bison-hunting Caddo thrived.

The confrontation between Spanish and American soldiers sobered both sides and the “Neutral Ground Agreement”, signed November 1, 1806, established a contested but neutral strip between Texas and Louisiana effective until 1821. The west boundary was the Sabine River, Jefferson’s proposed boundary, the eastern the Arroyo Hondo, Spain’s choice. The northern boundary was a line from the Sabine across to the Red valley thirty miles north of Natchitoches (32°), effectively the lower limit of Caddo lands.¹⁷⁶ This was the first defined boundary to approach the Study Area. Part of the agreement was that no settlement was to be allowed, but both Americans and New Mexicans took advantage of the peace to stake out or squat on claims. The Caddo took advantage of having two euro-nations to safely trade with.¹⁷⁷ Freeman & Custis did not contribute to the GAD myth, but rather helped to foster Jefferson’s compelling myth of the West as a Garden just waiting for yeoman farmers. The Spanish would prove a stubborn and lingering impediment to that dream. The Caddo would, for a time, remain the gatekeepers to the Study Area on the Red River.

The next argonaut, Anthony Glass, was an unofficial explorer. Glass was a horse trader, illegal in the Spanish context, who tracked up the Red River to the Taovaya towns in 1808, and kept a journal. Despite his lack of scientific or official credential Glass provided valuable insights into the aboriginal and environmental milieus in the region trod by Pedro Vial decades earlier. His treatment here is out of chronological order, as Zebulon Pike was the next argonaut to view the Study Area. However, Glass fits geographically and because his insights were not publicly known in his own time.

¹⁷⁵ Mart A. Stewart, "From King Cane to King Cotton: Razing Cane in the Old South." *Environmental History* (12: 1, 2007): 59-79.

¹⁷⁶ Unstated in the various texts, this line reflected the de facto balance of power among the Spanish, Americans, and Caddo at that time.

¹⁷⁷ Smith (1995): 96-7.

Anthony Glass, 1810.

Dan Flores dominates the historiography of the southern approaches to the Study Area as Bolton once did the Southwest. Flores, along with Elizabeth A. Harper (John)¹⁷⁸, brought the story of Philip Nolan, Anthony Glass, and the “Texas Trading Frontier” to light. Flores resurrected the lost journal of horse trader extraordinaire Glass in a fashion that inspired this work. He mapped the journal using extensive on the ground methodology then connected Glass’s remarkable record to the people and landscape of the Red River using extensive annotations both ethnohistorical and environmental. The Glass journal was “[f]orgotten for nearly two centuries”, and the content never entered American consciousness until Flores published. Therefore neither Nolan nor Glass had any impact on the formation of the desert *idée*. However, the Glass journal also provides the most interesting combination of ethnohistorical and environmental information of any of the sources but for Long, and gives valuable insights into the southern limits of the Study Area. Glass made his trip only two years after Freeman & Custis and observed roughly the same geographic from a much different perspective. Following is a distillation of both Glass’ and Flores’ impressions of what would become the border between *Texas* and *Oklahoma* circa 1808.

¹⁷⁸ Elizabeth Ann Harper (John), "The Taovayas Indians in Frontier Trade and Diplomacy, 1719-1786," *Chronicles of Oklahoma* (31: 3 (1953): 268-89. Uniquely printed in three different journals.

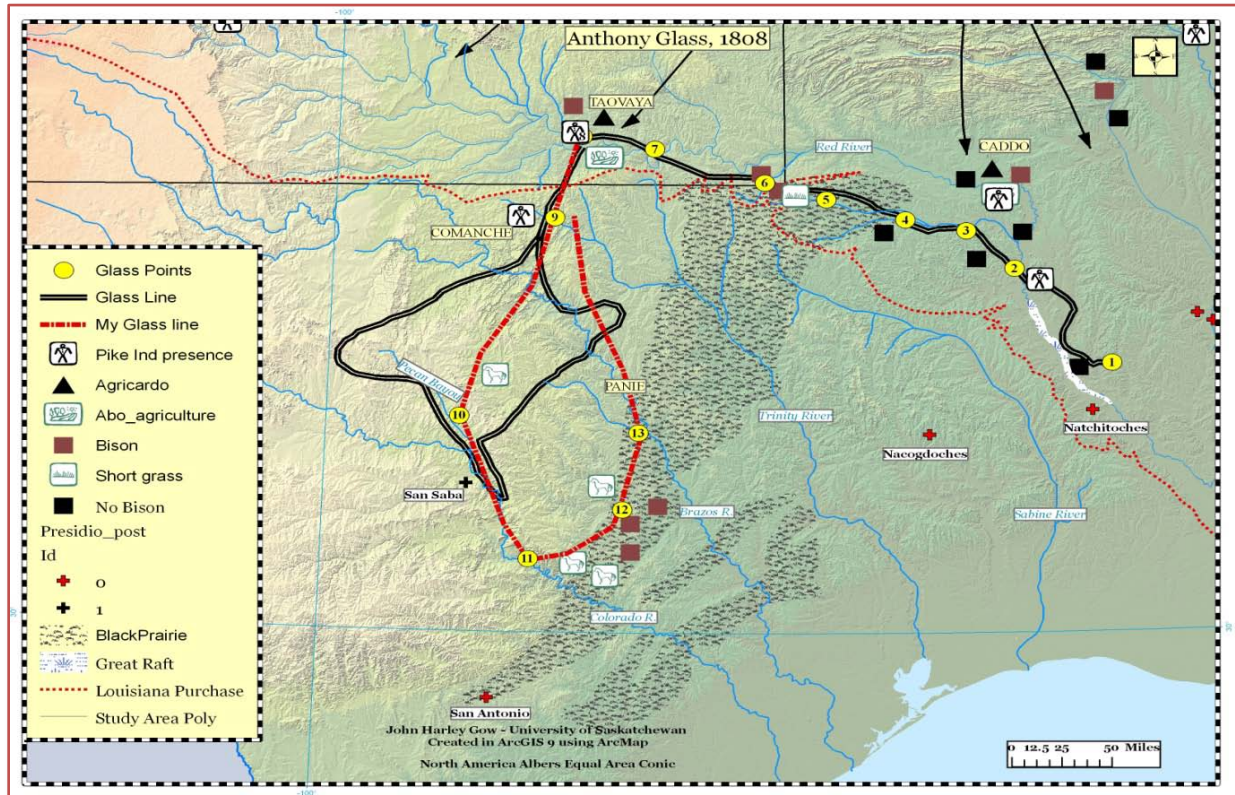


Figure 8.9. Glass, 1808.

Glass sensibly tracked across ground, rather than tried to fight his way through a proven impassable river, and therefore reported on scenes away from river banks. July 6 1806 he departed from a salt works [Point 1] above Natchitoches and set out for the Coughatta/Caddo towns.¹⁷⁹ The Coughatta were “Emigrants from the Creeks” and occupied lands the Caddo had abandoned because of “Small Poxe.”¹⁸⁰ The Coughatta had horses and many firearms and were preparing for a strike against the Osage. Glass noted that the cane was very thick and the “Soil extremely rich.” July 17 they crossed the Red and found the remains of an old Caddo town and “many Peach trees”¹⁸¹ [2]. The lands about were “Rich Prairias.” July 24th Glass crossed the road made by “Captain Vianne...in pursuit of Freeman [on] the Sulphur Fork of the Red River” almost exactly two years earlier¹⁸² [3]. Glass noted stands of oak, ash, and hickory here

¹⁷⁹ The polyline Glass Route was digitized from the Flores map at p. 38.

¹⁸⁰ Glass (1985[1808]): 39.

¹⁸¹ Glass (1985[1808]): 41. The peach trees were a European import, possibly from DeSoto’s transit. As Flores noted, the Caddo made their houses from cedar, which as Freeman noted, still flourished in the region in 1806.

¹⁸² Glass (1985[1808]): 41.

“interspersed with “Rich handsome Prararies.” The Caddo town and old LaHarpe post were just miles downstream. The next few days they followed the Sulphur River and marched through oak and hickory woods, the Post Oak Savannah. July 28th they crossed the Middle Fork Sulphur River [4]. July 29 they encountered the first mustang. On 31 August they found a prairie dog town on the highlands [5]. This remnant colony suggests that Blackland prairie supported a short grass regime at this time, at least in places. The next few days they found themselves in bois d’arc woods. August 4th they saw and killed the first bison on the black land- prairie, and the next day struck Bois D’Arc Creek [6]. In this valley they saw “great numbers of Wild horses.” The next day, the 6th, they saw a “gang of Buffalo and killed three of them”.¹⁸³ From the text it is clear this was not a herd. August 8 they crossed the Red River, then “about a hundred Rods wide and at this time about three feet deep” near “three knobs” or hills¹⁸⁴ [7].



Figure 8.10. Red River near Quich, Mid-July.

¹⁸³ Glass (1985[1808]): 44.

¹⁸⁴ Peak Hill near Marietta OK. Flores (1985): 45, *n* 33. A rod is 16.5 feet (5m), about a canoe length. That made the flooding Red 1600 feet across.

The next day above the Red they saw “droves of Buffalo”, being the first herd encountered. Flores makes this out to be the Grande Prairie, a mixed grass “bison range *par excellence*.”¹⁸⁵ I would assume these were outlier bulls. The next day they trekked through “Brushy lands”, the Western Cross Timbers and some 20 miles saw them to the “Panis Villages”, or Taovaya towns visited by Vial. They had been closely paralleling the Vial route of 1788. The GIS desktop reveals that Glass has been scrupulously sticking north of the height of land marking Spanish territory. Vial had no worries in that regard. However given the aboriginal sites revealed by the American argonauts it could well be that Vial scrupulously kept to the south of that height of land which marked Caddo/Coushatta territory and the realm of French traders at the Caddo Post.

August 11 1806 fifty Taovaya on horseback came out and escorted Glass into the town, identified as *Quich*.¹⁸⁶ Glass gave the best description of the Taovaya complex, distilled here. The horse wranglers were feted at an assembly in the Council House where, uniquely, “head men and women” listened to Glass’s spiel.¹⁸⁷ There were over 150 present in the building. The Taovaya houses were round, “70 or 80 feet in diameter at the base and thirty or forty feet high,” framed with poles and thatched with “cypress” or cane. Glass gave the impression he was representing the “Great Father the president”; he was not. What he sought was entrée to the Comanche that he might trade for horses with the Taovaya as intermediaries. The great chief Awahakei told Glass he had been born on the Arkansas River but his people had been displaced by the Osage. This could have been in the 1760s, as the Taovaya town is thought to date from “around 1757”.¹⁸⁸ Elizabeth John wrote that LaHarpe and DuTisne knew of

a dozen Wichitan villages in the Arkansas valley in 1719; by 1750 there remained only two or three villages on the Arkansas, located at the head of navigation for the convenience of French traders and on the margin of the buffalo plains for the convenience of hunters.¹⁸⁹

¹⁸⁵ Flores (1985): 45, *n* 33.

¹⁸⁶ From *Quisita*, or Wichita. First recorded by La Harpe. Gary Clayton Anderson, *The Indian Southwest, 1580-1830: Ethnogenesis and Reinvention*, (Norman: University of Oklahoma Press, 1999): 151.

¹⁸⁷ Glass (1985[1808]): 47.

¹⁸⁸ Flores (1985): 115, *n* 36.

¹⁸⁹ Elizabeth A.H. John, *Storms Brewed in Other Men's Worlds: The Confrontation of Indians, Spanish and French in the Southwest, 1540-1795*, (Lincoln: University of Nebraska Press, 1981[1975]): 338ff.

The Wichita then collapsed back on the Red River “to escape enemy pressures”, and transplanted the former Quivara agricardos in the process. The Jumanos of de Vaca had now returned ‘home’ to the Red River and the Southwest.¹⁹⁰ Somehow in this process the now Taovaya had come to a French sponsored rapprochement¹⁹¹ with the incoming Comanche and forged the remarkable relationship observed by Vial. In this process of literal re-grouping the Taovaya emerged out of several groups including the Tawakoni, Kichai, and Yscani in a process of, to borrow Gary Clayton Anderson’s words, “band ethnogenesis and cultural reinvention.”¹⁹² The Arkansas Osage now occupied those lands and that environmental/trade niche as Wilkinson would soon discover. I suspect that in their long history since Contact, the Jumano had re-grouped so many times, or rather on such a continuous basis, that they had in 1810 very little in common culturally or genetically with the group Cabeza de Vaca met.

I would like to draw attention here to a ‘coincidence’ I have not seen considered elsewhere. First, Elizabeth Harper John found evidence that the Taovaya drove out Lipan Apache in acquiring the *Quich* environs circa 1757.¹⁹³ Secondly, many primary sources recorded the remarkable San Saba fight of March 16 1758 in which some 2,000 *Norteños*, Comanche and allied Wichita fighters, sacked the Spanish mission/presidio and killed or drove away its Spanish and Apache inhabitants.¹⁹⁴ These two developments were connected, representing a strategic alliance to seize the Red River and plains from the Spanish and Apache alliance. Seen in this light the Taovaya emigration to *Quich* may have been as much proactive to new opportunities as reaction to Osage imperialism. In 1759 the allied Wichita without the Comanche decisively defeated the Spanish punitive expedition of some 500 under Parrilla at *Spanish Fort*.¹⁹⁵ They were aided by their use of firearms, group discipline, and their defensive fort. Parrilla blamed his defeat, including the loss of two cannons to the Taovaya, on “French

¹⁹⁰ “The Taovayas appeared in the Spanish literature of New Mexico as the Jumanos.”¹⁹⁰ Elizabeth Ann Harper, “The Taovayas Indians in Frontier Trade and Diplomacy, 1719-1786,” 268-89. *Chronicles of Oklahoma* (31: 3, 1953): 272.

¹⁹¹ Harper (*Chronicles* 31: 3, 1953): 270. Athanase de Mézières was the agent of this.

¹⁹² Anderson (1999): 41. Anderson also mapped this process out very capably at p.150.

¹⁹³ Antonio Trevino, *Testimonio*, August 13 1765. Harper *Chronicles* (31: 3, 1953): 279.

¹⁹⁴ San Saba would hang on until about 1768, a most undesired assignment for Spanish soldiers.

¹⁹⁵ A most inappropriate name. There never was a Spanish Fort here, nor anywhere near it. Settlers simply assumed the earthworks and fort remains had to have been of Euramerican construction.

intervention.”¹⁹⁶ There is no evidence of French presence at the fight, although French *fusils* played an important role.

French traders had supported the Taovaya/Wichita settlement. The road Glass followed had been the highway between the Caddo Post and the Taovaya town. The Taovaya also traded with Arkansas Post, and with English traders on the Missouri through *Owaheys* intermediaries, possibly Skidi Pawnee.¹⁹⁷ I speculate that as the Taovaya traded Apache slaves with the French they likely traded easier transported horses to the Pawnee in exchange for firearms. Both groups being bison-hunting and agricultural and thus had no need to trade food products. This trade would have run north south avoiding the enemy Osage and Kansa on the Arkansas. Taovaya trade integration with the British and French kept them out of the Spanish realm and gave them an independence that galled the Spanish. As noted elsewhere herein, and by Elizabeth John, it was the ability of an aboriginal group to sustain trade relations with two euramerican groups that kept them from dependence upon any one group. Trading with the French, British, and now Americans, kept the Taovaya free from dependence upon the Spanish.

Glass sheds some light on the southern bank towns reported by Vial, et al. A town of “sixty five Houses” was split into two, each with a sub-chief. While the northern town grew “green Corn, Beans, Water[melons] and Mus Melons,”¹⁹⁸ the southern town cultivated “Corn Beans Pumpkin in about 300 acres of land.”¹⁹⁹ The Taovaya were unique, or in Glass’ words:

differ[ent] from all other Savages in [that] the Men labor in the Field with the women and make all the fences, which are made by driving stakes in the Ground three or four feet apart and wattling brush into them. They have no cattle nor hogs and only Horses and Mules to fence against, they raise much more corn Pumpkins and Beans than for their own use [which] they always have to exchange with the Hietans for Horses and Mules.

The Taovaya appear to have been an exceptional group in terms of their gender organization, which is even more interesting given that Glass reported they had many more women than men. The Taovaya women dried pumpkin into a sort of fruit leather which hunters carried. The Taovaya grew masses of corn, to the extent that each household dried “from an hundred to an

¹⁹⁶ Harper *Chronicles* (31: 3, 1953): 283.

¹⁹⁷ Glass (1985[1808]): 56.

¹⁹⁸ Glass (1985[1808]): 47. Flores links the watermelons and muskmelons to the French trade. Again, given the Mermelon River, I think it likely Indian agricultural groups had some cultivars of their own.

¹⁹⁹ Glass (1985[1808]): 50.

hundred and fifty bushels.” In common with other groups the Taovaya grew two crops of corn a year, as reported by Juan Zepeda, an 1806 Spanish trader. He was able to acquire 139 *fanegas* (200 bu.) in exchange for sugar, “hoes, axes” and other goods—no firearms, of course.²⁰⁰ Given a hundred houses at 100 bu. the Taovaya perhaps put up 10,000 bu. of corn in addition to all the green and ripe corn consumed. Taovaya productivity must have been very high, because the current record for American corn yields “reached an all-time high in 2009 at 165.2 bushels per acre[.]”²⁰¹ Either the Taovaya trumped that figure, or they had several acres per household in corn, even given their two crop a year regime. When one considers that green corn was a summer staple, Taovaya productivity was even higher. The surplus was put up in bison skin bags which were then buried “so artfully” in pits that an “enemy...would not find” it.²⁰² George Catlin described and drew the extensive gardens on the river banks where they would be inundated annually by flood waters and nutrients. *Quich* was a permanent townsite with all the requisites of a substantial agricardo. Presumably it replaced the former Quivara agricardo in function if not location. Given their output, storage and fencing, the Taovaya had a Type C agriculture.

²⁰⁰ Letter, Zepeda to Salcedo, June 16, 1806. Quoted in Anderson (1999): 185.

²⁰¹ United States Department of Agriculture, National Agricultural Statistics Service, Online. “2009 Crop Year is One for the Record Books, USDA Reports,” Washington: January 12, 2010. http://www.nass.usda.gov/Newsroom/2010/01_12_2010.asp. Accessed 17 March, 2011.

²⁰² Glass (1985[1808]): 56.

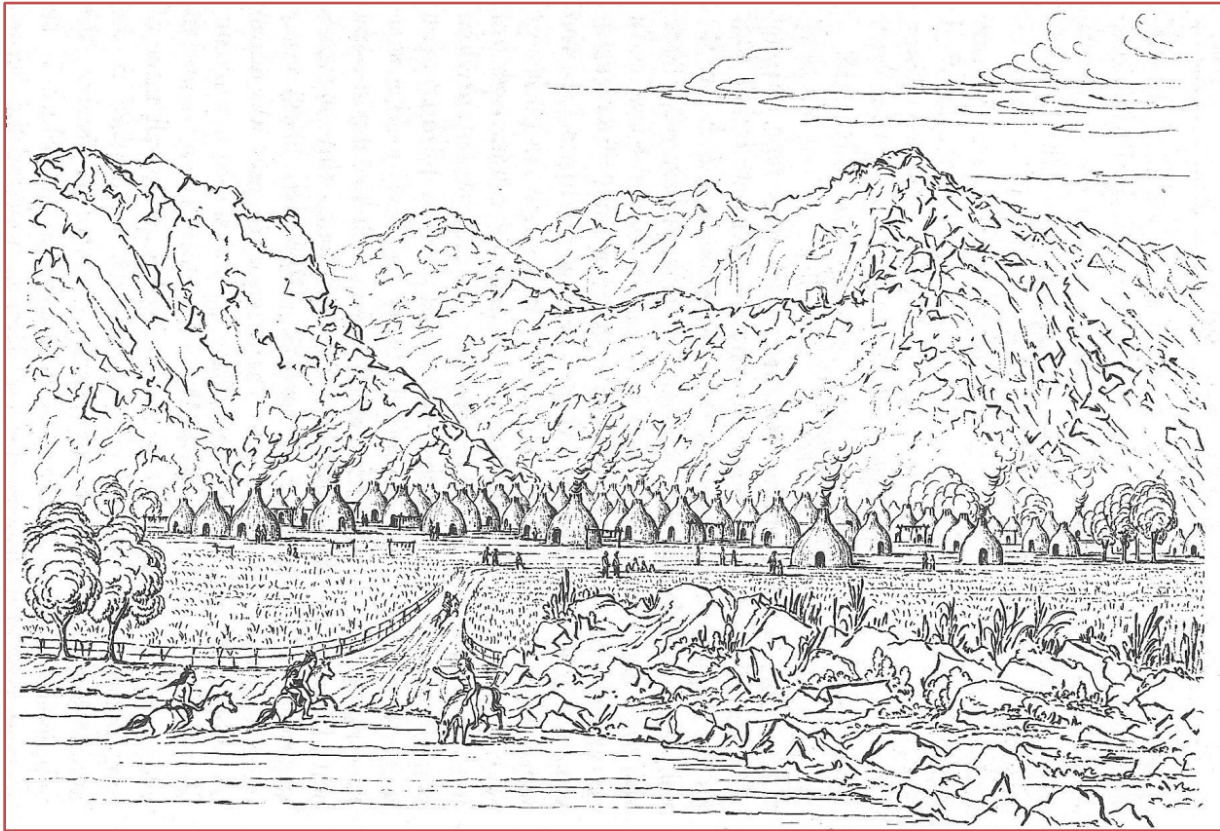


Figure 8.11. "Pawnee village on the banks of the Red River." George Catlin. *North American Indians*. Edited by Peter Matthiessen. (New York: Penguin Nature Classics, 1989[1841]): 336. The majestic pile of rocks in the background is the Wichita Mountains; Catlin's artistic urge sometimes overcame his reportage. Catlin admitted the "mountains enclosing the Pawnee village" were actually "about ninety miles" from the town, precisely accurate (335).

Bison was their primary protein—"fresh buffalo meat was brought in every day"²⁰³—to the extent that deer were ignored and wandered around the camps "Like Domestic Animals[.]"²⁰⁴ The dependence upon bison protein allowed the Taovaya to trade 'surplus' corn. On September 14 a "gang [of 41 buffalo] made their appearance in sight of the towns...fifty men on horseback sallied out and killed the whole without firing a gun."²⁰⁵ It is impossible to identify bison sex from the account. Glass was impressed with the hunters who used, as did the Comanche, long lances and "Bow[s] of Boi' d Ark wood, the most elastic wood in the world[.] Flores intimated the Taovaya hunted these groups in surrounds from horseback as depicted textually and

²⁰³ Glass (1985[1808]): 56.

²⁰⁴ Glass (1985[1808]): 55.

²⁰⁵ Glass (1985[1808]): 59.

graphically by George Catlin. They likely did, but Catlin described the Mandan/Minatare far to the north.²⁰⁶

Glass did not enumerate *Quich*, the ‘capitol’, but the two southern towns had 65 houses, and *Quich* was larger than either. If the Taovaya had 100 households, would the standard estimate of ten persons per household apply? Glass said the Taovaya could put 300 fighters in the field and had “nearly two thousand Souls with a large proportion of children, and some very old persons.”²⁰⁷ The Taovaya had lost half their population to smallpox since Athanase de Mézières had counted them. They kept children they acquired through trade and slaving, but were ruthless—Glass wrote “singular”—in torturing and killing adult captives. Some children were adopted into families and others kept or traded as slaves. The Taovaya also practiced anthropagy into the 1800s as noted by various sources.²⁰⁸ Glass observed this practice in September when an Osage party raided the Taovaya herds and an unfortunate Osage was captured, “killed and cut in pieces and distributed” through the towns.²⁰⁹

From *Quich* Glass headed south amassing the horse-herd he would take back to Louisiana. He purchased some dozens of horses from the Taovaya but also lost some to the Osage raiders and other thieves. The Taovaya had surplus horses but not massive herds as did the Comanche. This was an eminently sensible strategy given Osage raiding and their own agricultural requirements. Perhaps the Taovaya site with two thirds of the community on the south shore was a partly a defensive scheme to protect the horse herds. There is no record of Apachean raiding from the south and the river barrier would partly protect both horse herds and the population. Glass noted the Taovaya propensity for building sturdy defensive log forts “of a very slender [palisade] construction made of mud, which they retire to when attacked by an enemy.”²¹⁰

In contrast, the first Comanche camp encountered on October 8 had “one thousand souls and three times that number of Horses and Mules.”²¹¹ This was some 40-50 miles to the

²⁰⁶ Catlin (1989[1841]): 196ff.

²⁰⁷ Glass (1985[1808]): 56.

²⁰⁸ Flores (1985): 123, *n* 33. One French trader marveled at the waste when the captives could have been sold for slaves rather than eaten. LaHarpe just missed a public banquet at which “seventeen [Apache] war prisoners [were] eaten”. Harper *Chronicles* (31: 3, 1953): 275.

²⁰⁹ Glass (1985[1808]): 65. Glass did not seem to think it was undeserved as he made no judgment.

²¹⁰ Glass (1985[1808]): 56.

²¹¹ Glass (1985[1808]): 67.

southwest of the Taovaya [9]. As seen in the Vial accounts the Comanche groups a buffer between themselves and *Quich*. I posit a different track for Glass than Flores did—both routes are represented on the map below. This route follows proven Indian communication routes, it puts Glass on all the rivers he mentioned by name. It has him on the middle Colorado when he made his glowing report of that valley and keeps him below the Edwards Plateau which he mistook for the Shining Mountain. It also connects him with the Blackland Prairie, proven to be horse country. This route is some 50 miles shorter than Flores' 600 miles.²¹²

October 20th after tracking resolutely southwest they struck a “large Creek a branch of Colerado” where the “ground was covered with...Pacans [there] being no other timber on the creek bottom than Pacan,”²¹³ nicely identifying *Pecan Bayou* [10]. Here a large party of Comanche joined them to trade. There is a troublesome entry from December 11 that influenced Flores: “Changed our course North East towards the Panie Villages,” Glass wrote, and Flores mapped accordingly.²¹⁴ However, Glass later gave a glowing account of the Colorado River Valley:

The River Colerado we found about fifty miles from the Brassos, the country between these two rivers is generally hilly Limestone in abundance, mostly Prarie a small proportion of rich soil and all most excellent Pasturage—we travelled along in the Colerado bottom about sixty miles found it rich and beautiful timber...I never saw in any country more beautiful [sites for] settlements[.]²¹⁵

They likely traveled southeast through the Colorado valley [11] before turning east to cross the “fifty Miles” to the Brazos. The “Panie Villages” were likely the Takwakoni on the Brazos.

Glass wandered about the Texas plains through February 1809 both trading for horses and rounding up mustangs. Once back upon the Blackland prairie between the Colorado and the Brazos, Glass found herds of mustangs in “the thousands and...Buffalo...so plenty and so in the way”²¹⁶ they could not build pens for the horses [12]. In snow six inches deep, then normal winter according to the Vial records, “[b]uffalo [had] very much eaten out the grass[.]” This site was a continuation of the Blackland prairie and is evidence of that environmental province

²¹² I georectified the Flores route by using the Taovaya towns and junction Colorado River and Pecan Bayou; it lined up extremely well.

²¹³ Glass (1985[1808]): 70.

²¹⁴ Glass (1985[1808]): 73.

²¹⁵ Glass (1985[1808]): 78.

²¹⁶ Glass (1985[1808]): 79.

supporting a short grass regime in a time that was both cooler and subject to frequent burning. Once he reached the Brazos on February 15, the grazing improved [13].

Glass then returned to *Quich* and thence followed his tracks back to Natchitoches, avoiding Spanish presence. He arrived there in early May, 1809. The success of his enterprise in the face of “plains tribes supposedly under Spanish control” caused a sensation and spurred other American entrepreneurs to follow Glass’ tracks.²¹⁷ The first American trading outfit of Engle and Pont reached the Taovaya that same year. Strangely, however, the Taovaya agricardo had run its course. Flores wrote that the great meteor shower of the winter of 1811 roughly coincided with the death of the Taovaya leader Awahakei. Unable or unwilling to find a replacement, the Taovaya disintegrated into “small groups of Taovayas, Wichitas, Skidis, and Iscanis scattered across the southern plains.”²¹⁸ Elizabeth Harper John noted that some Taovaya joined Comanche groups “fearing they were too weak to fend off Osage raids”, and others joined the Tawakoni town about two hundred miles further down the red River.²¹⁹ There was no sign of the Tawakoni on the lower Red in 1806, so they were still on the Brazos River where Vial found them in 1789. Either the townsite or its legend persisted into the 1820s, as the Long Expedition would demonstrate. There may have been more prosaic reasons for the Taovaya downfall. The introduction of disease by Americans out of Natchitoches cannot be discounted. Gary Clayton Anderson wrote that the Taovaya towns were again sacked by Osage after Glass’ visit and that the Osage “lay’d everything waste.”²²⁰ Perhaps the era of the agricardo was coming to an end.

On February 19, 1806, Thomas Jefferson presented a statement of the accomplishments of his various argonauts to that point. Dunbar & Hunter’s and Freeman & Custis’s reports were presented along with a letter composed by Meriwether Lewis and sent from Fort Mandan April 17th, 1805.²²¹ Lewis & Clark were then one quarter of the way to completing their round-trip to

²¹⁷ Flores (1985): 85.

²¹⁸ Flores (1985): 92.

²¹⁹ Elizabeth Ann Harper, "The Taovayas Indians in Frontier Trade and Diplomacy, 1779-1835." *Panhandle Plains Historical Review* (26: 1953): 41-72.

²²⁰ Salcedo, “Noticias...” April 24, 1809, quoted in Anderson (1999): 181.

²²¹ The annotated document is reproduced in Doug Erickson, Jeremy Skinner, and Paul Merchant, eds., *Jefferson's Western Explorations; Discoveries Made in Exploring the Missouri, Red River and Washita, by Captains Lewis and Clark, Doctor Sibley, and William Dunbar, and Compiled by Thomas Jefferson*, (Spokane: The Arthur H. Clark Company, 2004[1806]): 93-200.

the Pacific. Perhaps Jefferson faced political pressure to explain the results or lack of results of his several explorations. Lewis's contribution was a catalogue of Indian groups encountered on the Missouri. The other two expeditions provided synopses of the scant gain in geographical knowledge they had acquired. Jefferson's introduction focused on the thin gruel of accomplishments: a map of the central Missouri, "knowledge of an interesting branch of the...Washita", a "remarkable hot springs" and Sibley's glowing report on Louisiana.

The organization is chaotic and speaks of haste rather than thoroughness. Jefferson also wrote that Lewis and Clark on the "eight of April, one thousand eight hundred and five...proceeded up the *red river* in pursuance of the objects prescribed to them."²²² While Lewis and Clark had earlier mentioned in 1804 the Red River of the North, they were obviously not setting out on it in April 1805;²²³ rather they were at the Mandan villages on the Missouri River. Jefferson apparently had the Red River on his mind.

Bison were extirpated from the southeast approaches to the Study Area by 1806. The Texas plains, at least the Blackland Prairie, still had bison in herds to 1810. As settlement processed up the Red River from Natchitoches, the bison frontier rapidly withdrew northwest. The first bison encountered on the Red River were at the southeast corner of the Study Area at 96°west x 33°30' north. Large herds of mustangs roamed in central Tejas, and smaller numbers had followed the Blackland Prairie to the same region just below the Red River. This prairie belt was a natural corridor for horse range expansion. In a cooler and wetter era, when pre-settlement burning was still a regular occurrence, a short grass regime possibly held sway on this bioregion. There were no reports of observed burning by the above argonauts. The fact that this region had been largely to completely cleared of aboriginal presence by 1810 helped sustain the small remnant bison herds and allowed mustangs to spread freely in their place. No feral cattle were observed in the vicinity of the Study Area by any of the argonauts. Other sources make clear that pressures on bison populations were increasing exponentially from the southwest as well. In 1683 one of the great recorded slaughters of all time had taken place on the Conchos River, as

²²² Italics, mine. Thomas Jefferson. "Message to the Senate and House of Representatives, February 19, 1806." In Erickson (2004): 97-98.

²²³ Word search, "red river". Journals of the Lewis and Clark Expedition Online. <http://lewisandclarkjournals.unl.edu>. Accessed 23 January, 2011.

reported by Juan Mendoza.²²⁴ Mendoza wrote that a joint Spanish and Jumano force had “killed more than four thousand head for meat and left to rot on the prairie almost as many others...skinned for hides.” Clearly the Jumano were not ‘natural’ conservationists. Eight thousand animals were killed in another stand, and this was but one reported by Mendoza in one expedition. Charles Kenner figured that by the 1820s Comancheros were returning to Santa Fe with 12,000 hides annually, but that was but a fraction of the animals killed by Spanish actions alone.²²⁵

This Study Area was a near complete mystery to Americans in 1806; the Great Plains were too far away and unknown to be considered a frontier. In reality the true American frontier “was trans-Appalachian, not trans-Mississippi.”²²⁶ Lewis & Clark had reported decent lands to Fort Mandan and Sibley plumped for plantations on the Red River, but Americans may well have been suspicious why no American had yet seen the heart of the Louisiana Purchase, that great *terra incognita* remained *incognita*. Jefferson’s address made no mention of troublesome Spaniards. Terry Alford has written that Americans suspected the place was a desert based on a 1796 map by General Victor Collott, and a 1796 account by Jean Baptiste Trudeau of the upper Missouri that found “great waste lands” to the west. In reality Collot’s map did not see the light of day until 1826 and Trudeau’s French/Spanish missal is more familiar to academics (not very) than it ever was to 1800s Americans. When the Lewis & Clark journals did make their limited appearance they added, in Alford’s words, “only a miniscule amount to the Great American Desert notion.”²²⁷

In truth Jeffersonian exploration before Pike added no direct knowledge of the Study Area, apart from the proven fact that it was devilishly hard to get there. Any impressions gained were through oblique references made who argonauts that skirted or were turned back from the region. The following chapter examines argonauts who actually set foot in the region. These argonauts, Pike and Long, would set the GAD myth in motion.

²²⁴ Herbert Eugene Bolton, ed. *Spanish Exploration in the Southwest, 1542-1706*. (New York: Charles Scribner's Sons, 1916): 329ff.

²²⁵ Charles L. Kenner, *The Comanchero Frontier: A History of New Mexican-Plains Indian Relation*, (Norman: University of Oklahoma Press, 1994[1969]): 99, 101.

²²⁶ Terry L. Alford, "The West as a Desert in American Thought Prior to Long's 1819-1820 Expedition," 515-25, *Journal of the West* (8: 4, 1969).

²²⁷ Alford (1969): 518.

CHAPTER 9

Zebulon Pike: “These Happy Plains,” 1806-1810.

The Pike Arkansaw Expedition, 1806-07.

It is with the official American expeditions that the argonauts begin to provide enough geographic specificity and environmental attribute data to form base models of the study area. The expeditions of Zebulon Pike and Stephen Long provided enough information to facilitate environmental mapping. The Pike Expedition of 1806-1807 was the first of the great military-scientific explorations of the Trans Mississippi west. Pike used the ‘desert’ signifier as did Lewis and Clark, but Pike was by far the first to publish. This chapter explores the question as to whether Pike either created or disseminated the GAD *idée*. While Pike has been seen as the progenitor of the GAD myth, he was equally guilty of disseminating “adulation of the pastoral”¹ as he envisioned the tallgrass prairies near the Osage River as “the future seats of husbandry” where great herds of cattle “were destined to crowd these happy plains.”²

Zebulon Pike is the ‘red-haired step-child’ of Jeffersonian argonauts. Whereas Lewis & Clark are national heroes, “very few Americans today could say anything about who Pike was or what he did.”³ This was not the case in his own day, however, as Pike was the first argonaut to transit the Study Area, record his impressions and geographic positions, and publish the results. Zebulon Pike’s western expeditions were chronologically and geographically far-ranging, covering, as related in Pike’s own subtitle of his published three-volume manuscript, “the headwaters of the Mississippi River, Through Louisiana Territory, and in New Spain, During the Years 1805-6-7.” Pike’s complete written record is herein used to find evidence for the desert idea, both pro and con. However, only the portion of Pike’s travels as he approached and

¹ Roderick Frazier Nash, *Wilderness and the American Mind*. 4th ed., (New Haven: Yale University Press, 2001[1967]): 32.

² Nash quoting Pike.

³ Mark L. Gardner, “Introduction,” 1-11. Stephen Harding Hart and Archer Butler Hurlbert, Eds. *The Southwestern Journals of Zebulon Pike, 1806-1807*, (Albuquerque: University of New Mexico Press, 2006): 1.

crossed the Study Area from August 1806 to January 1807 will be fully considered in this discussion.

In 1804-5 Pike explored the upper reaches of the Mississippi for Jefferson, producing very good maps and some interesting observations that were published in pamphlet form and serialized in Eastern newspapers from 1806.⁴ The success of this work led to his being “chosen by General James Wilkinson, in 1806, to direct an undertaking of even greater importance and difficulty.”⁵ He was not then directly employed by Jefferson, and reported instead to Wilkinson. In the minds of many, this connects Pike with the Wilkinson and Aaron Burr conspiracy⁶, but it seems likely that Pike was simply in the right place at the right time to lead the Arkansas expedition. Some say that General James Wilkinson had warned the Spanish of Pike’s advance in the hopes of spurring a confrontation that would allow Wilkinson and Aaron Burr to seize New Orleans and start their own ‘republic’.⁷ This is classic conspiracy thinking dealt with in a point or two. If the Spanish knew Pike’s agenda why did they not find him until after Dr. Robinson went to Santa Fe to seek aid for the hunger and cold wracked expedition? Pike was then in the Rio Grande valley about 100 miles north of Taos. Still, there is no question that the Spanish knew something was afoot, recalling their reception for Dunbar above Natchitoches. While Pike was still in Saint Louis, or more accurately Bellefontaine, readying his party of twenty, Lieutenant Fecundo Melgares and some 700 Spanish troops were pressing Spain’s claim to Arkansas/Kansas territory. Melgares visited the Pawnee and avoided the Osage, and a fortunate Pike would find the tracks of his withdrawal to Santa Fe, but not encounter the Spanish force. Had that occurred, Pike would likely have been turned back as was Dunbar, never have ascended the Arkansas, and Americans would likely have had no official reportage of the Central Plains until the 1820s.

The only weight that the conspiracy theory places on this study is did it impact what Pike wrote and mapped on his trek? Did Pike consciously scramble or hide geographical information

⁴ Gardner (2006): 2.

⁵ Stephen Harding Hart and Archer Butler Hurlbert, Eds., *The Southwestern Journals of Zebulon Pike, 1806-1807*, (Albuquerque: University of New Mexico Press, 2006): 14.

⁶ And therefore, “its interpretation must remain tentative, even speculative.” Rodney Sidney Martin, “The Notorious Dr. Robinson,” 25-50, *Exploration and Mapping of the American West, Selected Essays*. Donna P. Koepp, ed., (Chicago: Speculum Orbis Press, 1986): 26.

⁷ For instance, Derek Hayes, *Historical Atlas of the American West; with Original Maps*, (Berkeley: University of California Press, 2009): 71.

in the aid of some arcane plot? Pike stumbled around for weeks in waist deep snow dressed in rags and fighting magpies for carcass scraps looking for the head of the Red River on the Arkansas because he was convinced that was where the Red River headed. Pike had apparently absorbed the published geographical data of his time and believed it dogmatically. The briefest look at his map or scan of his journals reveals not conspiracy but confusion in his work. He remained convinced that the long-held idea of the course of the Red was true, and published documentary evidence to prove it, as shown below. Pike was convincing, and was in turn directly responsible for the failure of the 1820 Long Expedition to sort out the Great Plains geography.

Pike did make that ascent and mapped the Arkansas into the Rocky Mountains. Just at the Big Bend of the Arkansas, Pike sent his second in command, Lt. James Wilkinson⁸ down the Arkansas with the maps and journals made to that point. In January of 1807 Pike and the remnants of his hunger and weather battered party were captured by the Spanish in the intermountain. At the time they were on the headwaters of the Rio Grande and obviously in Spanish territory. In all likelihood, this saved their lives, but the expedition ended up in Spanish custody. The rest of Pike's adventures are interesting, but not of interest herein. As Pike admitted he had been spying,⁹ his documents were confiscated by the Spanish.¹⁰ Pike presumably re-created the Arkansas journals through his captivity and emerged with these documents intact when released by the Spanish at the Sabine River near Natchitoches June 19, 1807.¹¹ Strangely, the Spanish took Pike on a tour of New Mexico and Texas before releasing him, as Hart and Hurlbert noted, this was hardly in Spain's best interests. Pike soon published what he had seen and gave a good reading not only of Spain's military dispositions in the territory, but also the tremendous opportunities awaiting American traders in New Mexico. This trade would follow the *Santa Fe Trail* explored and mapped by Pike.

⁸ Nephew to the General of the same name.

⁹ "I literally performed the duties ...of astronomer, surveyor, commanding officer, clerk, spy guide, and hunter[.]" Z.M. Pike, "Preface." Donald Jackson, ed. *The Journals of Zebulon Montgomery Pike: With letters and related documents*. 2 volumes: V.1, (Norman: University of Oklahoma Press, 1966): viii.

¹⁰ Pike's original journals were kept in archive in Mexico, and returned to the US War Department in 1910.

¹¹ Pike (2006): 239. There is an elaborate story about smuggling papers in gun barrels, which poses its own set of problems.

Pike's re-created journals were published in book form in 1810, attracting attention and criticism in equal parts. While the book was seriously flawed grammatically and organizationally, it also contained "much valuable information and remained long an authority on western matters"¹² It was also published on the Continent in English, French, German, and Dutch. Pike's efforts were rewarded with fame and "advance in rank" rather more than financially; he was promoted to colonel in time for the War of 1812 and died as a Brigadier-General at Fort York in 1813.

Pike's expedition was "a military reconnaissance" in part intended to explore the Louisiana Purchase.¹³ In reality this was only the fifth of five stated aims that Pike was assigned on the "Arkansaw" expedition. Wilkinson charged Pike with: 1) delivering some fifty Osage and Pawnee captives safely home;¹⁴ 2) the "accomplishment of a permanent peace between the Canzes and Osage Nations"; 3) to "establish a good understanding with the Ya,I,tans; I'etans; or Canmanches"; 4) "to cultivate the Friendship and Harmonious Intercourse of all the Nations of the Earth, and particularly our near Neighbours the Spaniards": and 5) "to remark [and map] particularly upon the geographical structure, the natural history, and the population of the country" of the Arkansas River.¹⁵ This geographic component's primary concern was to "ascertain the Direction, extent, and navigation of the Arkansaw and Red River's;" and a subset of the party was to descend the Arkansas to Fort Adams. This is a list of labors that would have daunted Hercules, and that Pike and his twenty-two companions were able to fully satisfy some of them is truly remarkable.¹⁶

¹² Hart (2006): 16.

¹³ Stephen Harding Hart and Archer Butler Hurlbert, eds., *The Southwestern Journals of Zebulon Pike, 1806-1807*, (Albuquerque: University of New Mexico Press, 2006): 17.

¹⁴ These individuals included several chiefs and had been captured by the Pottawatomi and ransomed by Washington. The chiefs had visited Washington and were now returning home under the protection of the US. Wilkinson's letter does not mention the Pawnee, but Pike's journal does.

¹⁵ General James Wilkinson. "Instructions to Lieutenant Pike, June 24, 1806," 57-60. Stephen Harding Hart and Archer Butler Hurlbert, eds., *The Southwestern Journals of Zebulon Pike, 1806-1807*, (Albuquerque: University of New Mexico Press, 2006): 57ff.

¹⁶ They delivered their charges, affected a truce with the Osage, and established relations with the Pawnee. They also figured the course of the Arkansas from source to mouth. There was to be no accommodation with the Comanche, the Spaniards arrested Pike for trespassing, and Pike's misunderstanding of river courses led him to mistake the Canadian for the Red, further baffling mappers.

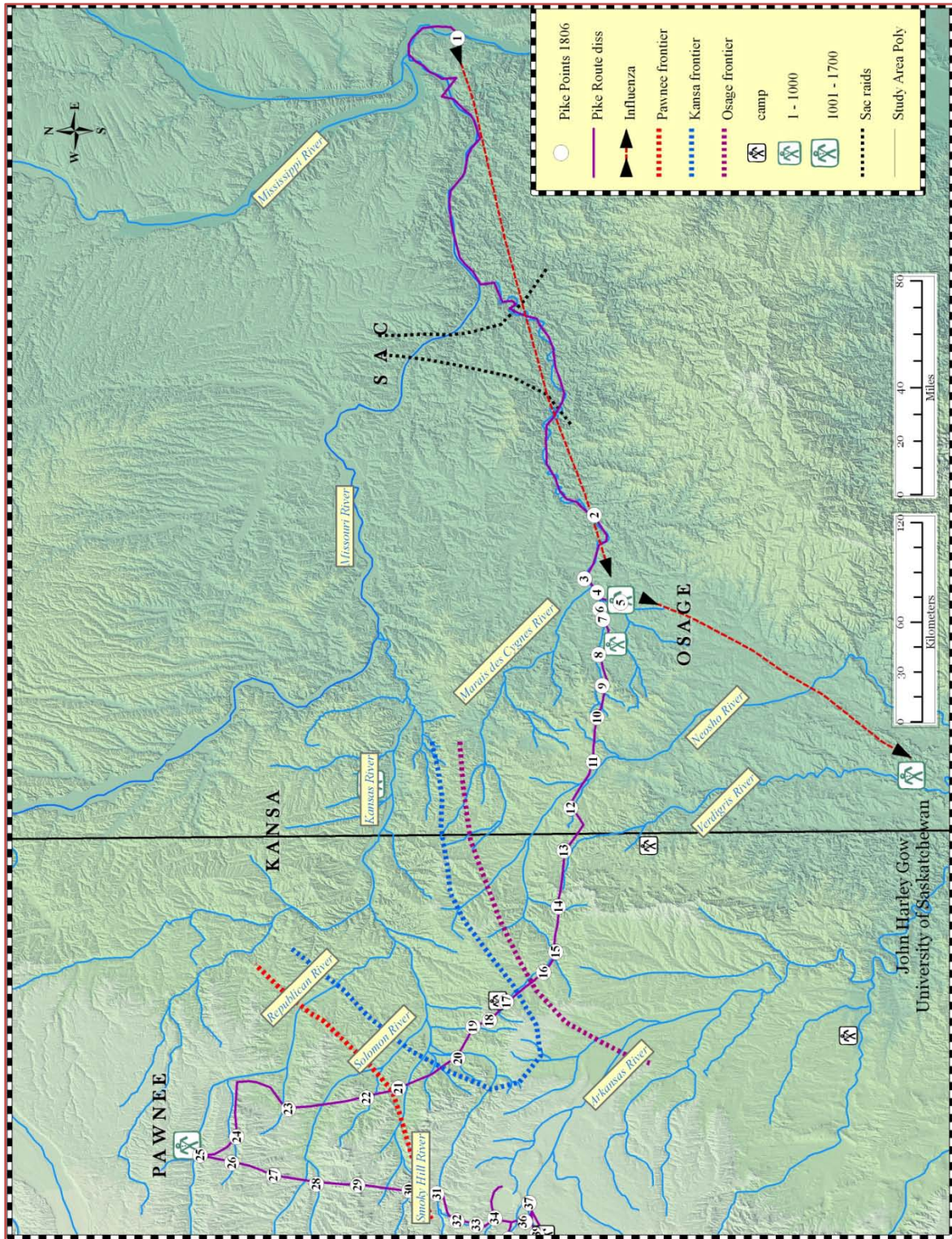


Figure 9.1. Pike: St. Louis to Republican Pawnee.

Pike, like the other Jeffersonian argonauts, began as a marine expedition, and they left Bellefontaine [**Point 1**] by boats contra-current up the Mississippi, thence up the Missouri to the Osage River which they ascended as far as navigable. They found war between the Osage and the Kansas, nominal allies in the days of Bourgmont. Bourgmont found the Osage on the Missouri, but Pike found them to have moved west onto the head of the Osage River. The Kansa, who had captured Vial on the Arkansas, were now north and further east on the Kansas River. The Osage, themselves now pressed from euramerican settlement around St Louis and contraction of the southern limits of their historical territories, increasingly pressed onto the Plains in 1806. August 13th they passed the Pomme de Terre River [**2**], and observed the first “prairie hills”, meaning the first open ground encountered. The rain was near continuous, and it was very hot, 25° Reaumur (31°C/88°F) The river ox-bowed so much they travelled thirteen miles and progressed three.¹⁷ The next day they heard from *engagees* of Auguste Chouteau’s that the Osage had sent out war-parties against the Kansa and Americans on the lower Arkansas.¹⁸ The Osage were themselves attacked by Sac warriors from across the Missouri; these lands along the Osage River were now a frontier for the Osage rather than the heart of their territory.

The Nau map helped figure locations for Pike’s observations for later argonauts and historians, although the map is flawed. The most obvious error is Little Osage River¹⁹ flowing from the south rather than from due west. Still the map is very useful for locating the camps and towns, particularly Fort Carondelet. One cannot blame Nau for bad practice considering he worked from Pike’s own sketches. See the cropped versions of the Nau²⁰ and Pike²¹ maps of the Grand Osage. Contrast these with the Pike map above for the actual disposition of the rivers.

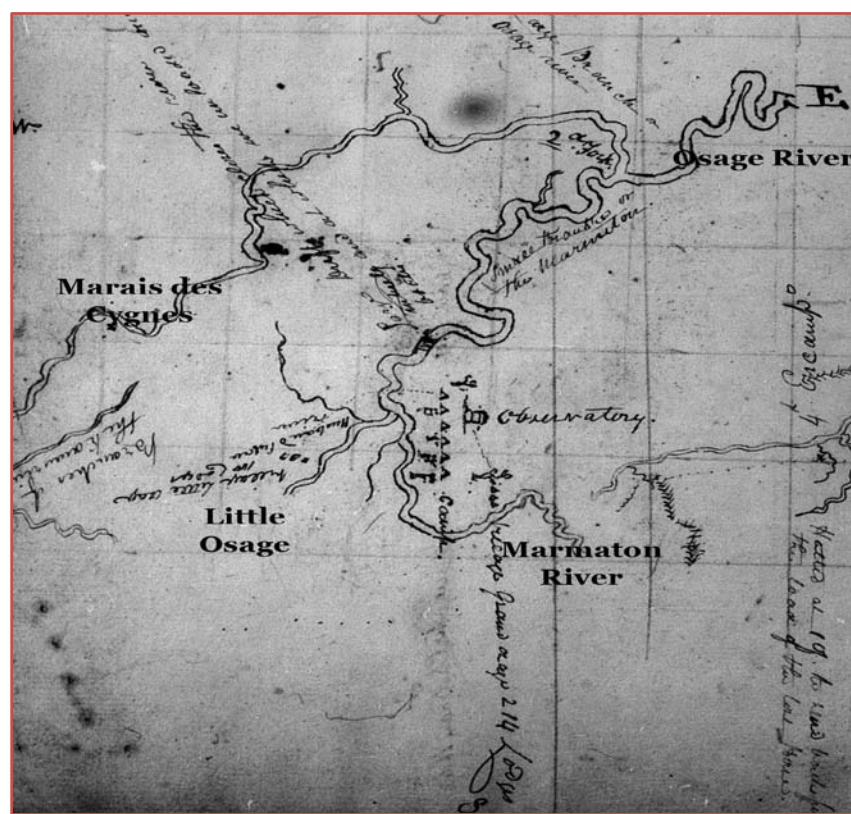
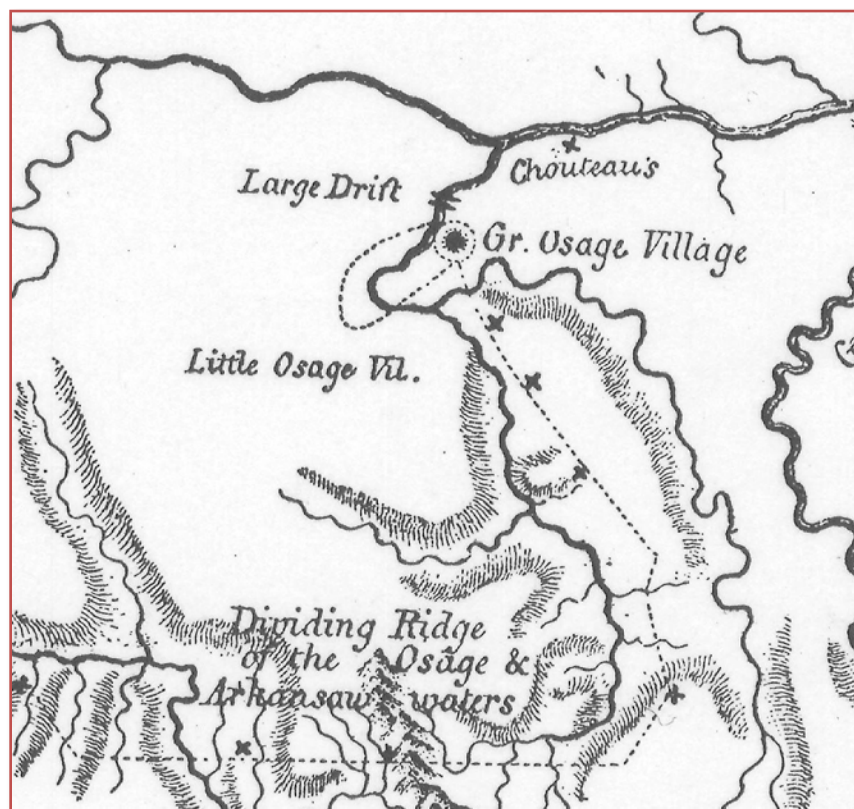
¹⁷ Pike (1965 [1810]), v.2: 380. These lands are now under the Harry Truman reservoir. Coues’ ground work and explication was completed before the Osage was dammed and is therefore a valuable source.

¹⁸ Both Dunbar and Freeman reported Osage depredations, those in Dunbar preceded Pike.

¹⁹ ‘Little Osage’ refers in part to the size of the stream but more importantly denotes the presence of the Little Osage branch of the Osage people. Grand Osage was the original and larger of the Osage groups and maintained an agricardo town on the Osage River. Sometime in the late 1700s another group hived off and settled on the lower Arkansas River.

²⁰ Zebulon Montgomery Pike, “The First Part of Captn. Pike’s Chart of the Internal Part of Louisiana,” Anthony Nau, engraver. (Philadelphia: C&A Conrad, 1810). This map is credited to Pike, but Nau actually created it from Pikes notes and documents.

²¹ Pike, Lieutenant Zebulon, "Lt. Zebulon Pike's Notebook of Maps, Traverse Tables, and Meteorological Observations, 1805-07," Washington: National Archives; Records of the Adjutant General's Office. RG 94. 1955 [1807]. (After, Pike, RG 94) Rivers noted in bold type.



Figures 9.2 (top): Nau Map Crop. Figure 9.3. (bottom): Pike Map Crop.

August 17 they passed the site of Fort Carondelet [3], Pierre Chouteau's post, now defunct. "10 French houses" remained, now occupied by a French speaking Sac married to an Osage woman. This day they passed through broad prairies along the river. August 18 they passed the "second fork" of the Osage, the Marais des Cygnes. They continued on the Osage until blocked by a raft of old trees and camped at what they called Camp Independence [4].²² Pike had a recurrence of the illness that dogged their tracks and it began to rain again. August 19 the Osage arrived with horses, and Pike and company went to the town of the Grand Osage, tracking across prairie along the *Marmaton River* [5]. The chief here was Cheveux Blanche, the 'White Hairs' of Dunbar. Here the expedition would remain until September 1st as Pike negotiated with Cheveux Blanche for peace, and horses. Messengers arrived from Manuel de Liza at St Louis, and from the lower "Arkansaw" with news that a boat carrying an American and an Osage chief had been fired on and the Osage killed. This established that the Grand Osage was long-established²³ and lay on an 'highway' connecting the Arkansas and Missouri Rivers [Fig.8.4. Osage road].²⁴ The Osage had many Spanish medals, evidence of Spanish efforts to curry their favor. Pike also visited the Little Osage to the south on the *Little Osage River* [6].²⁵

August 20 and 21st, the company "were regaled with boiled pumpkins," and presented with "corn, meat and grease."²⁶ Pike elsewhere made compendium notes about aboriginal groups, and wrote the

Osage "raise large quantities of corn, beans and pumpkins, which they manage with the greatest economy, in order to make them last from year to year. All the agriculture is done by women."²⁷

This is the first and only argonaut usage of the term 'agriculture' applied to aboriginal practice. Wilkinson too noted Osage agriculture writing that he was presented with "green corn...and

²² They were mid-way between Osage towns and subject to neither.

²³ Coues maintained that the Grand Osage had been on this site at least a century before Pike. Coues (1965 [1810]), v.2: 390, *n* 45.

²⁴ The journal repeatedly demonstrates that even bipedal overland traffic by both Indians and other euramericans was at least twice as fast as Pike's riparian progress. There is no evidence of any Indian using canoes or boats in Pike.

²⁵ Pike does not locate this but it was to the south and could be got to and returned from in less than a day.

²⁶ Pike (1965 [1810]), v.2: 388. The grease was probably sourced from bear, the meat, undeterminable, but not bison.

²⁷ Pike (1965 [1810]), v.2: 532.

water-melons about the size of a 24-pound shot, which though small, were highly flavored.”²⁸ The Pike journals provide no evidence for Type C agriculture—no irrigation or infrastructure—the Osage practiced a Type B agriculture producing surplus crops.

Pike said the two Osage towns “hold more people in the same space of ground than anyplace I ever saw.”²⁹ These towns had a permanence around which trade networks were organized. Pike took a rare census of the Grand Osage, and “found it to be: men, 502; boys, 341; women and girls, 852; total, 1695; lodges 214.”³⁰ This averages eight persons per lodge, although all reporters noted great variety in the size of Osage houses.³¹ Pike elsewhere made census of the Little Osage and found 250 warriors, 241 women, and 174 female and 159 male children—specifying the gender of children is a remarkable act—for a total of 824.³² Pike did not here mention that there was a third Osage group on the Arkansas River.³³ Given these clues; permanence of location, agricultural production, surpluses and storage, it is prudent to consider this place an important agriardo. The Grand Osage was a crossroads of trade and communication lines that linked the Great Plains with the Missouri/Mississippi trade. Pike sited the Grand Osage at “37° 26' 30" N.” and “6° 30' E.”; the longitude being some 50 minutes or 45 miles south of reality, and the latitude unfathomable.³⁴

²⁸ Lieutenant James B Wilkinson. “Wilkinson’s Report on the Arkansaw,” 539-561. Coues (1965 [1810]), v.2: 541.

²⁹ Pike was from New Jersey and familiar with the crush of eastern cities. Donald Jackson, ed. *The Journals of Zebulon Montgomery Pike: With Letters and related Documents*. 2 vol. (Norman: University of Oklahoma Press, 1966): v.2, 31.

³⁰ Pike. “Letter to Wilkinson, 30 August, 1806.” Coues (1965 [1810] v.2): 582.

³¹ The Little Osage chief Wind arrived with “186 men”, presumably not all of the smaller town’s men.

³² Pike “Statistical Abstract.” Coues (1965 [1810] v.2): 590-591.

³³ The Arkansas band, source of the Caddo and Taovaya raiding, numbered perhaps 1,500. Hart (2006): 94, *n*.

³⁴ Pike. “Letter to Wilkinson, 28 August, 1806.” Coues (1965 [1810] v.2): 578.

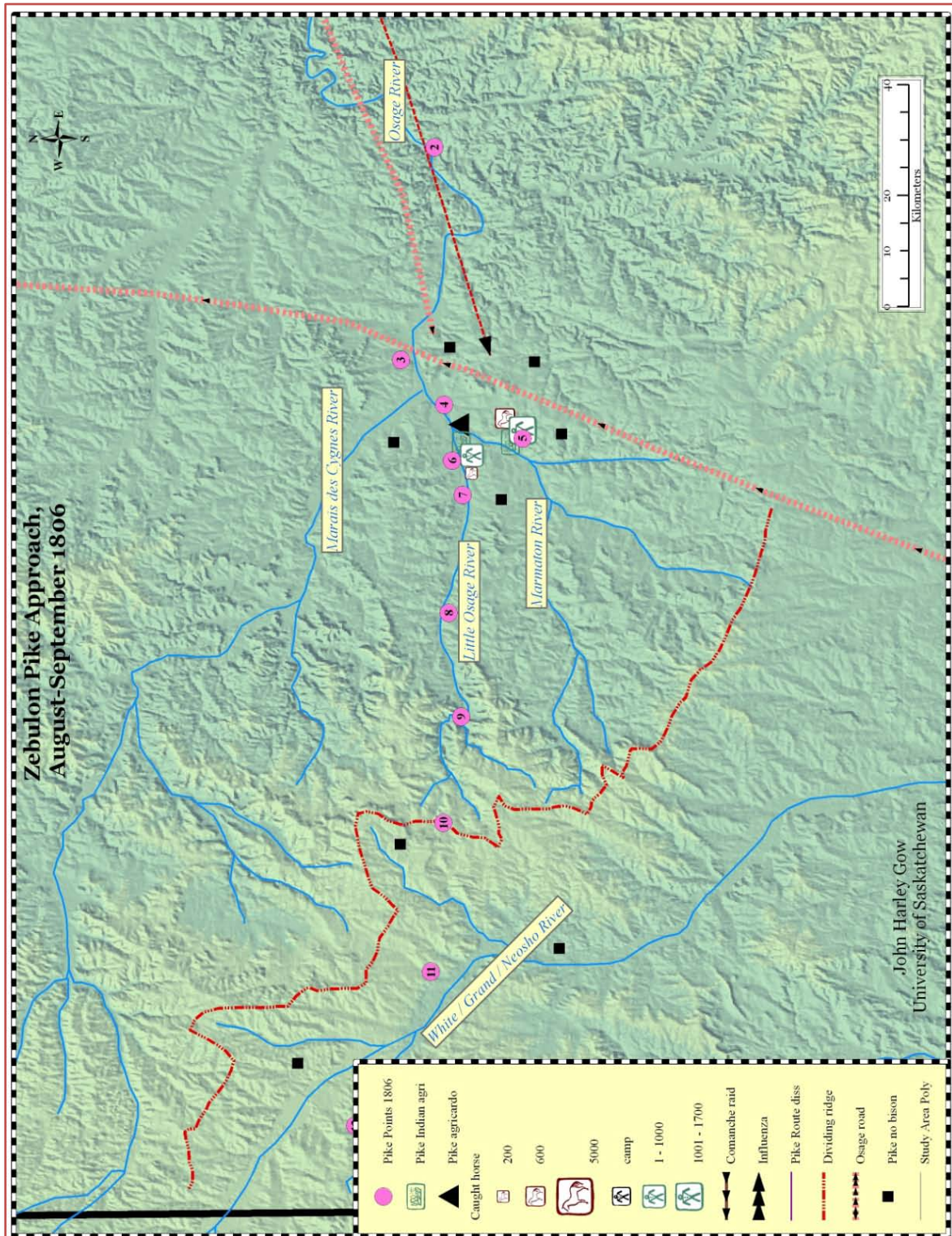


Figure 9.4. Pike: Osage Towns.

With euramerican settlement encroaching on the Osage's eastern boundaries it was inevitable that introduced pathogens became a regular visitor.³⁵ The Pike expedition was an inadvertent agent of one such. Several Osages and expedition members, likely including Pike, contracted influenza in St Louis, and took this with them to the Osage towns. In the months following Pike's visit, some 200 Osage died of this illness which their leadership came to believe "was visited upon them by Captain Pike." This may well have caused a spike in resentment towards Americans, and through early 1808 Osage warriors attacked American settlers west of St Louis, stealing horses and firearms but also burning out farms. In response Meriwether Lewis, now Governor of Louisiana territory, prohibited trade with the Osage, particularly firearms and powder.³⁶

They encountered an incredibly wet summer, although this may not have been an anomaly in the 1800s, as it would be today. Since turning on to the *Osage River* July 28, 1806, huge storms and rainfall made their lives a misery. On the 29th it "rained incessantly," August 1 it "rained all night, the river [rose] about 6 inches."³⁷ By August 5, Pike was so waterlogged his observation was a laconic, "River rises 13 inches. Rain continues."³⁸ Historical averages for St. Louis and Kansas City MO, the closest records available, are 8.5 rainy days in August. Pike identified 11 rainy days and storms to August 1 to 21³⁹, and did not comment on the weather while at the Osage towns, but for one very violent storm. Historically the average August rainfall at St Louis is 2.94 inches, and 3.88 at Kansas City.⁴⁰ Pike's camps were flooded out more than once, and he recorded rises in the river of 12 inches in an hour. Perhaps this was a year like 1946 at St Louis when they received 15 inches of rain in August, five times the average. Since there were no problems reported in the Osage towns—situated well back from the rivers—

³⁵ Some 20,000 euramericans would crowd into upper Louisiana by 1810. This influx was just beginning around St Louis in 1806. DuVal (2006): 295 *n*11. DuVal quoting an 1888 Annals by Frederic Billion.

³⁶ DuVal (2006): 201, and *n* 10.

³⁷ Pike, v.2 (1965): 372-3.

³⁸ Pike, v.2 (1965): 374.

³⁹ August 1,3,4,5,10,12,13,17,18,19,20,21. Other days he complained of wet conditions, but did not specify it rained that day.

⁴⁰ Both places have been getting wetter and warmer since the 1940's. Interestingly, both places have completely different precipitation patterns, with the record peak year at Kansas City, 10" in 1982 being a normal 3" at St Louis. The Kansas City regime is much more chaotic than that of St. Louis with year-to-year swings of 9" commonplace, double that of St Louis. Source, National Climatic Data Center, U.S. Department of Commerce <http://www.weatherbase.com/weather>. Accessed 18 February, 2011.

I presume this weather regime was normal for its day. This was likely yet another reason why Pike's Indian companions traveled overland and avoided the river valleys.⁴¹

The Osage had horses, as many as "700 or 800" head between the Grand and Little Osage. This was not enough animals to provide the standard two or three horses per fighter. Pike accordingly had great difficulty in securing animals at any price, and paid "extravagant prices [for] six horses...capable of transporting our merchandise and ammunition."⁴² That the Osage had relatively few horses in 1806 speaks volumes about the availability and range of the animals. Other sources have the Osage raiding all the way to the Caddo and Taovaya towns circa 1800 for horses, and Pike shows them to be a great force on the Arkansas. Yet the Osage barely had a horse per man.

September 1 they set out with "fifteen loaded horses", meaning the party was partly afoot.⁴³ Three Pawnee, four Osage chiefs and "30 warriors and one woman" accompanied them along the Little Osage River. Various complications kept them within a few miles of Camp Independence for four days, during which time the hunters produced only a few turkeys and deer, suggesting a game sink around the Osage towns [7].⁴⁴ Pike opined that "Nature scarcely ever formed a more beautiful place for a farm."⁴⁵ The next day, September 5th, the Little Osage rebelled after bad dreams and returned home. Pike took back firearms he had given them. September 6th they struck a "large fork of the little Osage" and fished for bass and trout [9]. They camped on a height of land, the "dividing ridge between the Osage and the Arkansas" [10, **Poly line Dividing Ridge**].⁴⁶ From this point Pike saw rolling prairies in all directions. To this point they had seen no bison or mustangs, and game consisted of turkeys and deer. On the 6th they killed one deer, indicating hunting was still poor at the heart of Osage territory. September 7 they went fifteen miles from the dividing ridge and camped on a deep stream. They killed four deer, as hunting improved with the distance (60 miles) from the Osage towns.⁴⁷

⁴¹ Recall the example from Bourgmont.

⁴² Pike. "Letter to Wilkinson, 28 August, 1806." Coues (1965 [1810] v.2): 578.

⁴³ Pike (1965 [1810]), v.2: 393.

⁴⁴ Coues made a mistake in figuring this site regarding the Grand River. He has this as the river of the Grand Osage, but Pike followed a stream to the 'grand' Osage or Marais des Cygnes.

⁴⁵ Pike (1965 [1810]), v.2: 395.

⁴⁶ Pike (1965 [1810]), v.2: 397. Here the advantages of the GIS topography are made obvious in plotting routes.

⁴⁷ Pike (1965 [1810]), v.2: 398. Pike map 3, RG 94.

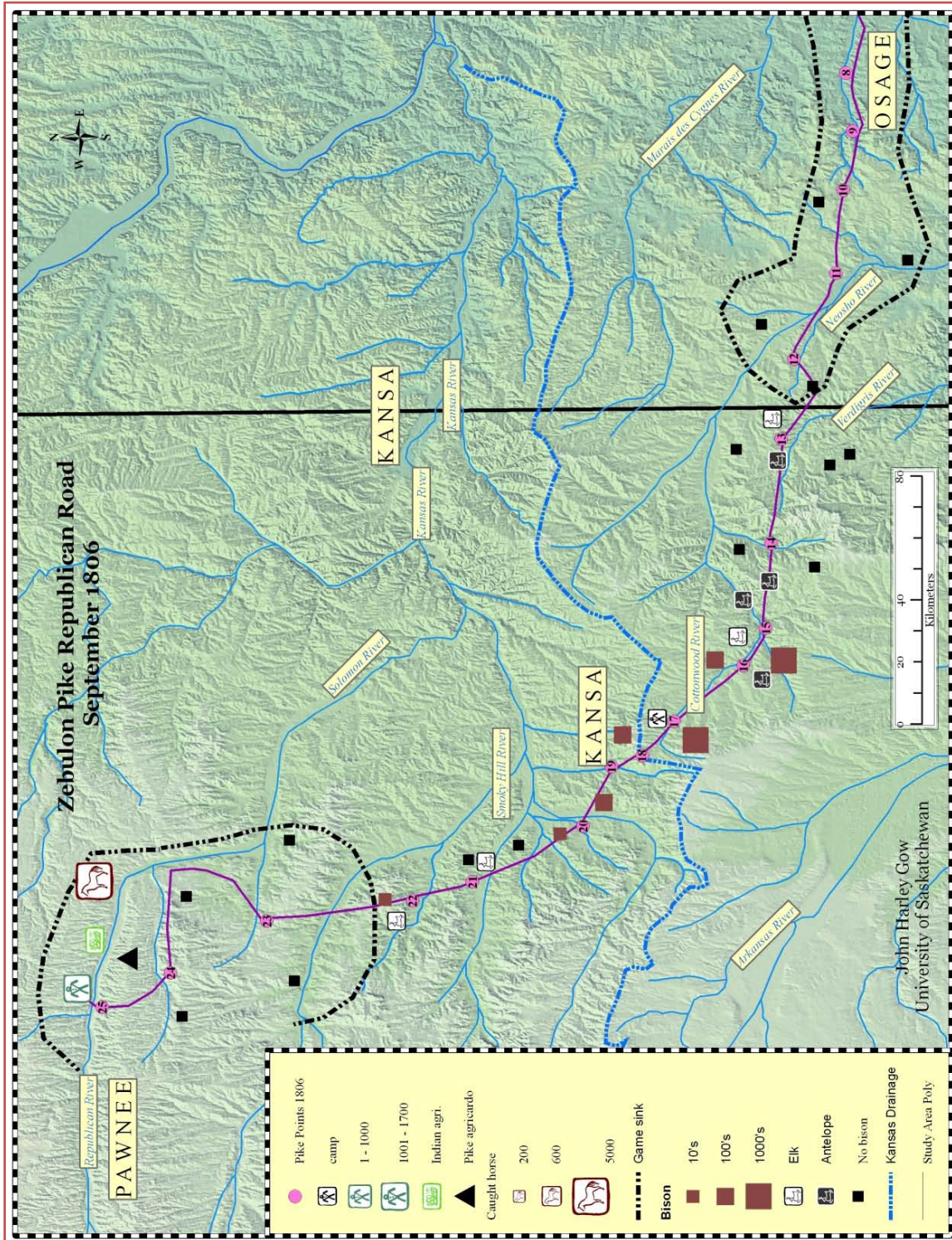


Figure 9.5. Pike Republican Road.

September 8th they crossed the ‘grand river’, or Neosho heading northwest. Here the last Osage chief, Cheveux Blanches’s son, left them—Pike opined because he was “filled with false-pride”—or because crossing the Neosho was a risky venture for an Osage chief. They camped on *Big Creek*, and killed the first *cabrie*, or pronghorn, they had seen [12], evidence they had left tall-grass prairie for plains.⁴⁸ On the 9th they determined to ascend the creek to the “highest point” and cross to a “large river of the Arkansaw[.]”⁴⁹ This they achieved on the 10th [13] and during the day hunted elk and pronghorn. September 11th they headed the Verdigris River, already named, crossed “high hilly prairie” and camped on a large branch of the Neosho, the *Cottonwood* [14].⁵⁰

September 12 they marched northwest and crossed some flinty hills before reaching “a hill, and in one view below me saw buffalo, elk, deer, *cabrie*, and panthers. Encamped on the main branch of Grand river, which had very steep banks and was deep.”⁵¹ This spot on the *Cottonwood* was likely the height of land near *Cedar Point KS* [15], and is important for figuring aboriginal presence as well as environmental factors. These were the first bison encountered, and they saw numbers of animals but not great herds. Later entries reveal that these animals were bulls and not cows. In passing through this valley they passed into “Kans’ hunting ground” from Osage territory. An observation this day flies in the face of the thesis that Indians were ‘natural’ environmentalists or “keepers of the game.”⁵² On seeing these herds before them Pike’s Pawnee and Osage companions “would destroy all the game they possibly could...alleging it was the Kans’ hunting ground[.]”⁵³ The Osage seem to have thought bison hunting was a zero sum game. This also makes the case for the Kansa impingement on Osage

⁴⁸ George Bird Grinnell admitted the “eastern limits of the Antelope’s range are uncertain,” but that it possibly extended to the Missouri boundary in early historical times; pronghorn were common in eastern Nebraska; west of the Missouri at the northern reaches of the Study Area. “Pronghorn Antelope,” 135-141 *Journal of Mammalogy*. 10: 2 1929: 135. Pronghorn were almost hunted out on the American plains when Grinnell wrote this, there were remnant groups in the Dakotas and scattered animals elsewhere.

⁴⁹ Pike (1965 [1810]), v.2: 399. Pike map 3, RG 94, and “Traverse Table from the Osage.” This was the Verdigris and it does join the Arkansas, but so does the Neosho.

⁵⁰ Pike (1965 [1810]), v.2: 400.

⁵¹ Pike (1965 [1810]), v.2: 401.

⁵² Calvin Martin. *Keepers of the Game: Indian-animal Relationships and the Fur Trade*. (Berkeley: University of California Press, 1978): 184. “Was the Plains Indian responsible for the decimation of those vast herds [of bison]? Only in part, and certainly not in large part...the majority of plains Indians seem to have been acutely aware of their absolute dependence on the bison.” Richard White famously called the question of the Ecological Indian the “anachronistic question.”

⁵³ Pike (1965 [1810]), v.2: 401.

territory. When Bourgmont passed this way the Kansa were scrupulous about staying in the Kansas watershed, now it was the Osage who feared Kansa presence on the Neosho.

They would follow the Grand to its head, taking their time and enjoying the hunting—"six buffalo, one elk, and three deer"—on the 13th. On the 14th they continued upstream through "large herds of buffalo, elk and cabrie," and Pike kept his men from indiscriminately shooting animals "not merely because of the scarcity of ammunition, but as I conceived, the laws of morality forbid it also." That they were in Kansa territory was made clear on the 15th when they found an abandoned "very large Kans encampment" of the previous summer. This was just below the ridge that divided the "waters of the White [Neosho] and the Kans" [18]. They pressed on over the stony ridge, much against "the inclination of the Osage, who, from the running of the buffalo, conceived a party of Kans to be near."⁵⁴ On September 16 they struck a "handsome branch of water", *Gypsum Creek* [19], and found a horse they pursued "without success", presumably a caught horse gone astray. On the 17th they struck the "main S.E branch of the Kans", the *Smoky Hill River*, in the morning, crossed it and pressed on to a "large branch" [20], *West Dry Creek*. Game was very scarce, but they killed one buffalo.⁵⁵ On the 18th they crossed a "large branch strongly impregnated with salt,"⁵⁶ *Saline River*, crossed, and camped [21]. Not only was game scarce, but they were suffering for lack of potable water. The terrain was "hills and hollows."

On the 19th it rained for the first time since the Osage towns, and they stayed in camp "reading the Bible and Pope's Essays." Bored youth being much the same then as now, they spent time "pricking on our arms with India ink some characters" that would remind them of their "forlorn and dreary situation, as well as the happiest days of our life."⁵⁷ The Indians kept continuous watch here for Kansa from a large rock on top of a nearby hill. They found no game. They stayed in camp on the 20th to dry out and scouts found and killed three bison, the best meat of which they "jerked or dried by the fire" expecting more lean times. On the 21st they marched

⁵⁴ Pike (1965 [1810]), v.2: 402.

⁵⁵ Pike (1965 [1810]), v.2: 402. Pike map 4, Traverse Tables. Pike's map is very clear in this region, in part because he was more liberal with his use of pages, applying only two routes over two pages as opposed to four.

⁵⁶ Pike map 4, and Pike (1965 [1810]), v.2: 405.

⁵⁷ Pike (1965 [1810]), v.2: 406. Nothing beats a tattoo as a souvenir of exotic places.

ten miles and camped on a fresh stream of “the salt creek” [22].⁵⁸ More Osage attempted to desert in the night. On the 22nd members of the expedition were ill, including Wilkinson. The influenza now an unlikely candidate, heat, poor food and salted water were likely causes. On this day they met a Pawnee hunter who told them the grand chief had left for the north with “50 or 60 horses and many people.” Also the Tetaus, or Comanche, had recently raided killing six Pawnee and stealing “some horses” [Polyline: Comanche raid]. The Comanche raiding had supplanted that of the El Cuartelejo Apache.

On the 23rd they crossed “a large fork of the Kans” Pike correctly reckoned to be the Solomon, and pressed on to *Buffalo Creek* [23]. Most of the major streams now bear the name they will be known by: Solomon dates from 1755 and is a corruption of Edme Gatien de Salmon, a French Louisiana official.⁵⁹ They found neither game nor water. On the 24th they received a delegation of Pawnee. The Pawnee had many signs of Spanish trade; “mules, horses, bridles, and blankets,” and also gave Pike’s men buffalo meat.⁶⁰ They camped on a “middle-sized branch”, *White Rock Creek* [24]. The next day they struck “a very large road” made by the Spanish return. They marched to within a few miles of the Pawnee town and were made to stop for a large ceremony. The Osage Belle Oiseaux was treated like royalty by the Pawnee who put on a great display of arms and generosity. The Osage were given eight horses by the Pawnee, a singular occurrence. That day Pike and company descended to the Republican River and according to Pike’s map, if not journal, crossed to the north bank and set up camp to the west of the Republic Pawnee town.

The first gift given by the Pawnee to Pike was when they “loaded [him] with corn for [his] men.” Pike elsewhere wrote that the Pawnee were co-equal with the Osage; “raising a sufficiency of corn and pumpkins to afford a little thickening to their soup during the year.” Pike noted women did the agricultural work, cut pumpkin onto thin slices and sun-dried it making it “a tenth its original weight.”⁶¹ As far as corn storage, the Pawnee “quit their villages in the winter, making concealments under ground of their corn, in which it keeps perfectly sound until

⁵⁸ *Salt Creek*, appropriately enough.

⁵⁹ Von Rothenberger. *Weaving the Common Threads of the Solomon Valley Fabric*. <http://skyways.lib.ks.us/orgs/svha/index.htm>. The USGS explanation, that it is a “Prospector’s name reported in 1899” is obviously incorrect, given Pike’s 1806 usage. U.S. Board on Geographic Names, Online. <http://geonames.usgs.gov/domestic/>. Accessed 17 January, 2011.

⁶⁰ Pike (1965 [1810]), v.2: 406.

⁶¹ Pike (1965 [1810]): 533.

spring.”⁶² Richard White has written that until the Pawnee began conducting a horse-mounted winter hunt, they likely lived year-round in their towns, and that the problem of “supporting horses as well as human beings through the winter” forced them to adopt the winter hunt.⁶³ Annual flooding of the Republican valley provided soil sustainability for agriculture as at the Taovaya townsite.

The Pawnee had the dubious honor of being situated on what would become the main road west for gold rushers and settlers. Both journaling nesters and scientists left good records of environmental factors military men such as Pike were oblivious to. From these later sources, 1820-50, we learn that the Pawnee sites were surrounded by amaranth, as had been the Taino sites. Pig or hogweed is the inelegant term settlers used for this crop grown and eaten by the Pawnee through the 1800s. Edwin James of the Long Expedition would later marvel at the abundance of wild onions “as large as an ounce ball” around the Platte towns, and wild potatoes were also plentiful around the townsites. Wild plums also grew in un-natural abundance around the Pawnee towns, as did sand cherries. Plants valued for their medicinal properties, such as *Acorus calamus* and *Lobelia cardinalis* were found in numbers indicating cultivation. When the Pawnee were later removed and confined to reservation they took seeds of many of these plants with them.⁶⁴ If Pike noted any of these signs of Pawnee manipulation of the plant kingdom, perhaps he thought they were lucky or clever to choose such a bountiful site.⁶⁵ Given the permanence of their habitation, the large-scale production, processing and storage of crops, the Pawnee had a type C agriculture more developed and important to their success than that of the Osage.

The Pawnee lived in round log houses built up from pits “4 feet deep and 60 in diameter roofed with wicker and thatch; inside were wicker rooms and woven storage. The town was

⁶² Pike (1965 [1810]): 535.

⁶³ Richard White. *The Roots of Dependency: Subsistence, Environment, and Social Change among the Choctaws, Pawnees, and Navajos*. (Lincoln: University of Nebraska Press, 1988 [1983]): 181.

⁶⁴ Discussion based on White (1988 [1983]): 193-5.

⁶⁵ Sarah Carter noted that it was “a source of anguish” to 19th century Canadian observers that “Indians displayed no visible evidence of any degree of mastery over the environment ...The most glaring evidence [being] that they left no marks of their presence on the land.” *Lost Harvests: Prairie Indian Reserve Farmers and Government Policy*. (Montreal & Kingston: McGill-Queen's University Press, 2000 [1993]): 16.

much more open than the Osage towns.⁶⁶ Pike took a census of the Republican Pawnee, counting 508 males, estimating 550 females and 560 children, making 1,618 individuals. Pike estimated other Pawnee towns unseen at 4,600, making a population of some 6,200.⁶⁷ He estimated the Kansa at 450 souls.⁶⁸ All of this information combined with the long-term stability of location, and the endless procession of trading and negotiating groups. Pike observed all the attributes of a major agriardo. The Republican town was self-sustaining in terms of food production, and produced goods for trade: food, horses.⁶⁹ I believe that horse production allowed the Pawnee to have a relative “disdain” for the fur trade, as discussed by Richard White;⁷⁰ what trade they did undertake was with French traders and not Spanish.⁷¹ Trading grown food and horses to groups such as the Arikara and Mandan largely freed them from dependence on peltries and allowed the Republican Pawnee arrogance towards both Pike and the Spanish.

In Pike’s “Statistical Abstract” he also gave valuable information regarding the disposition of firearms. The best-armed group was the Osage. Both the Grand and Little Osage possessed a firearm per ‘Warrior’ by Pike’s accounting. Second to the Osage were the Kansa who had 450 “Fire Arms” for 465 Warriors. The various Pawnee groups had on average one firearm for every 2-3 warriors, the Republican had 200 firearms for 508 warriors. That the percentage of firearms per warrior dropped as one moved west is made evident in Pike’s estimation for the Tetau/Comanche at 270 firearms for 2,700 warriors.⁷² Pike identified all groups as trading with St. Louis, but for the Comanche who traded with “Spaniards on N.

⁶⁶ Pike (1965 [1810]): 533.

⁶⁷ Waldo Wedel wrote that from archaeological and historical evidence it was unlikely that the Republican River watershed—roughly commensurate with Republican Pawnee territory—ever supported more than 3,300. Wedel (1986): 225.

⁶⁸ Pike, “Statistical abstract of the Indians who inhabit that part of Louisiana...1806 and 1807,” 590-591. Elliot Coues, ed. *The Expeditions of Zebulon Montgomery Pike*. New Edition, three volumes in two. (Minneapolis: Ross & Haines, 1965 [1810]): 590.

⁶⁹ R. Douglas Hurt has written that the Pawnee “produced a corn crop estimated at 20,000 to 40,000 bushels annually”, but does not say by whom or when. *Indian Agriculture in America: Prehistory to the Present*. (Lawrence: University Press of Kansas, 1987): 87. A check of his notes sent me to White (1988 [1983]): 162. White was doing some estimating based on sources from 1840.

⁷⁰ White (1988 [1983]): 190.

⁷¹ Wedel (1986): 173. Archaeological evidence shows “far more goods came to the Pawnee from the French than from the Spanish.” The Padouca had intercepted Spanish trade until their demise.

⁷² Pike, “Statistical abstract,” 590.

Mexico.” The closer groups were to the French, then American, trade, the more arms they possessed.

The Pawnee were relatively horse-rich, although Pike unfortunately never guessed at numbers. Since the Pawnee gifted horses, unthinkable for the Osage or Kansa, they must have had the requisite 2-3 horses per warrior as well as a surplus. Pike elsewhere wrote that;

With respect to raising horses, the Pawnees are far superior to the Osage, having vast quantities of excellent horses which they are daily increasing, by their attention to their breeding mares, which they never make use of; and addition they frequently purchase from the Spaniards.⁷³

Remarkably and in contrast to all other groups surveyed the Pawnee raised their own horses with dedicated herds of brood mares. Given 1,500 to 2,000 riding horses and additional mares and foals, perhaps the Republican Pawnee then as many as 3-4, 000 horses.⁷⁴ Given their agricultural lands this required a high level of organization, and “two young soldiers [could] instantly disperse a hundred persons[.]”⁷⁵ The Pawnee protected their horses by herding them into the town at night making it “extremely crowded”; during the day guards stayed with the herds. Presumably this was done with a division of gender labor and men and boys watched the horses as women and girls did the farming.

Pike gives an excellent analysis of the Spanish expedition under Melgares, and the complicated politics involved in Pike’s negotiations with the Pawnee. In a nutshell, the Pawnee were not impressed by Melgares’ 100s of troops, and were even less impressed by Pike’s fearless twenty. The Pawnee in fact raided and stole a large herd of horses from Melgares while he was on the Arkansas River. This loss was not critical as Pike estimated the Spanish had more than 2,000 horses and mules. From Pike’s discussion this paper draws the understanding that very late in their tenure in New Mexico the Spanish were uniquely and very briefly capable of showing the Spanish flag in force across the Study Area.

⁷³ Pike (1965 [1810]), v.2: 533.

⁷⁴ Richard White estimated the Pawnee as a whole might have had 6-8,000 horses at this time. *The Roots of Dependency: Subsistence, Environment, and Social Change among the Choctaws, Pawnees, and Navajos*. (Lincoln: University of Nebraska Press, 1988 [1983]): 179. See White’s chapter, “Social Change and Environmental Change,” 178-198, for an excellent environmental reading of the impact of the horse on Pawnee culture.

⁷⁵ Pike (1965 [1810]), v.2: 535.

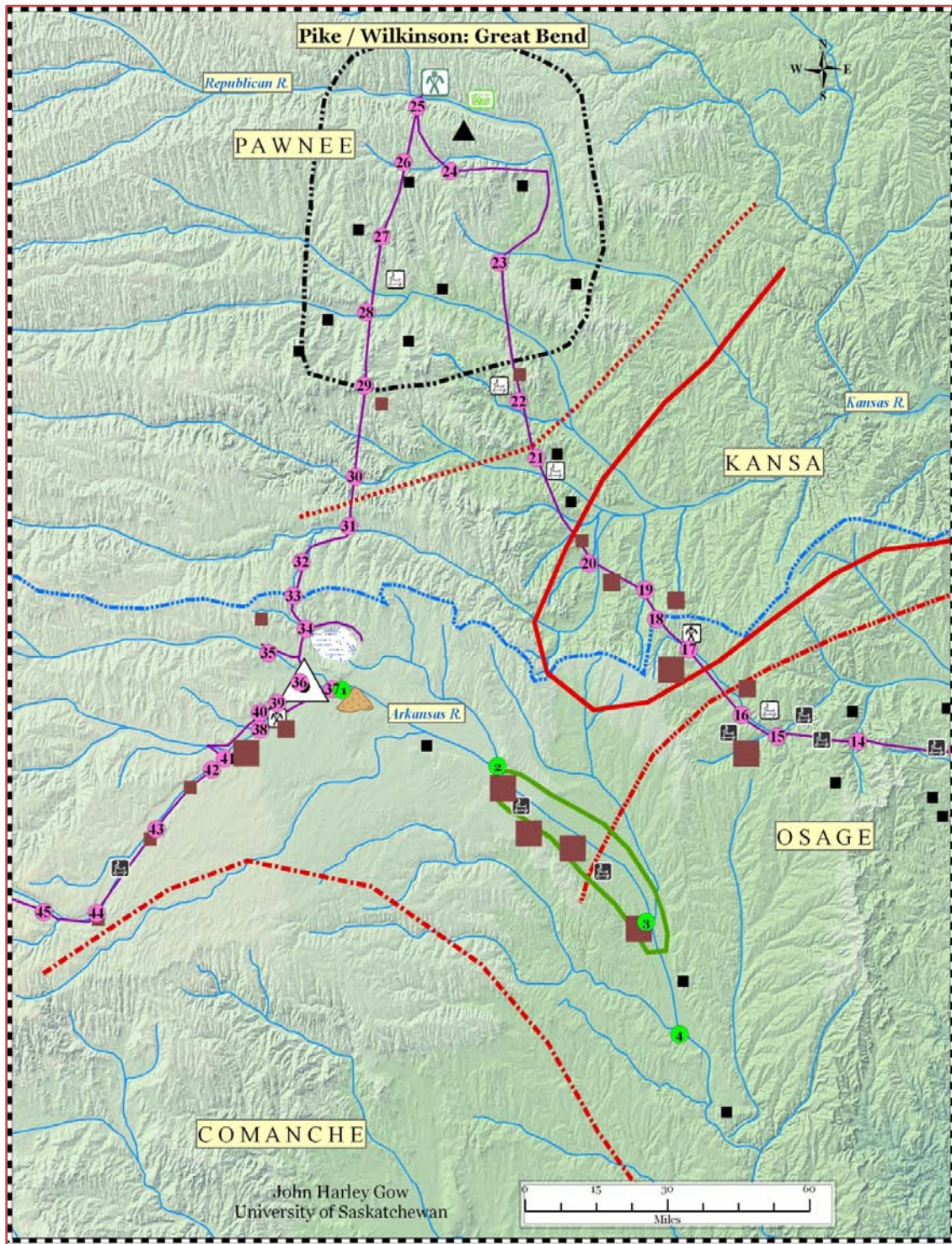


Figure 9.6. Environmental Great Bend (Legend below).

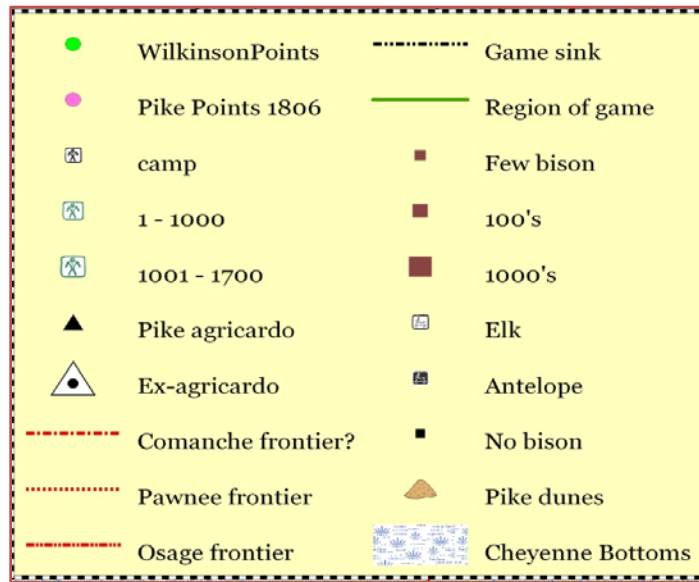


Figure 9.7. Legend: Environmental Great Bend.

On leaving the Pawnee on October 7th, Pike was made aware they had promised the Spanish he would not be allowed to travel west. Pike fearlessly pressed on as he always would when faced with adversity, and the Pawnee backed down. The party of “two officers, one doctor, 18 soldiers, one interpreter, three Osage men and one woman, making 25 warriors” was apparently now all on horseback and they regained Rock Creek the first day [26]. It began to rain that night. The next day they marched 18 miles south to a “branch of Solomon’s Fork”⁷⁶ [27]. During the day they found a recent Spanish campsite with 59 fire pits and Pike figured “they must have been 354 in number.”⁷⁷ On the 9th they made 18 miles south⁷⁸ and reached the “Grand or Solomon Fork.” Pike watched their Pawnee escort bow-hunt a large herd of elk from horseback; “they buried the arrow up to the plume in the animal.”⁷⁹ This observation is consistent with elk herds occupying riparian valleys in the Central Plains [28]. That large herds

⁷⁶ Coues misreads this as Buffalo Creek; I suspect he did not have Pike’s Traverse Tables to work from.

⁷⁷ Pike (1965 [1810]), v.2: 420. Coues reckoned they numbered 360 given that some 240 had remained at the Arkansas camp. *n* 5.

⁷⁸ Pike Traverse Table. His records are excellent for this segment of the journey.

⁷⁹ Pike (1965 [1810]), v.2: 421.

were found on the Smoky Hill indicates that “narrow winding ribbons of forest” still penetrated onto the plains along streams flowing from the Rockies as late as 1806.⁸⁰

On the 10th they made some miles but a lost hunting party caused them to stop. They gained a “large ridge” from which they “had an extensive view of the southwest”, and then “encamped on the prairie without wood or water [or game]”⁸¹ [29]. Their Pawnee escort left them here. On the 11th the argonauts were reunited and they made 12 miles to the south, camping on the Saline [30]. They killed a buffalo in the afternoon, the first bison of this leg. But for the elk on *Oak Creek*, this was the first game encountered, again evidence for a 40-50 mile game sink around the Republican town.

Sunday the 12th of October they made 18 miles and struck the Smoky Hill River [31]. Here Belle Oiseau and another Osage left as they desired a return to “the hunting-ground of the Osage.” The ground they crossed was heavily trampled and grazed by bison, but they found no game. The 13th was rainy and they crossed the Smoky Hill and marched 7 miles to a branch; *Sellens Creek* is virtually the only possibility given their route [32]. They were reduced to killing a *cabrie* as there was no larger game.⁸² It rained all night and through the 14th. They soon crossed “the dividing ridge between the Kans and Arkansaw rivers” [33]; they pressed on and struck *Blood Creek*, followed it “down” and were forced to a halt by “a pond on the prairie.”⁸³ This was certainly *Cheyenne Bottoms*. They saw many buffalo and wounded several, but could retrieve none; this meant they saw scattered animals as opposed to a herd [34].

⁸⁰ Waldo R. Wedel *Central Plains Prehistory: Holocene Environments and Culture Change in the Republican River Basin*. (Lincoln: University of Nebraska Press): 22. Wedel noted that the Republican valleys were big-game hunter’s paradise through the 19th century.

⁸¹ Pike (1965 [1810]), v.2: 422. They may well have been passing through *Cheyenne Gap* and climbed the adjacent highland. DeLorme *Kansas*: 33, E 10 [38°12’ N x 98°38’ W].

⁸² Pike (1965 [1810]), v.2: 424. I presume that antelope have become invisible to them now as they were/are so ubiquitous on the short grass plains. Again, no argonaut hunted antelope when elk or bison were available. Their westward shift is noted in the Traverse Table, “From the Panis republic town.”

⁸³ Pike (1965 [1810]), v.2: 424.

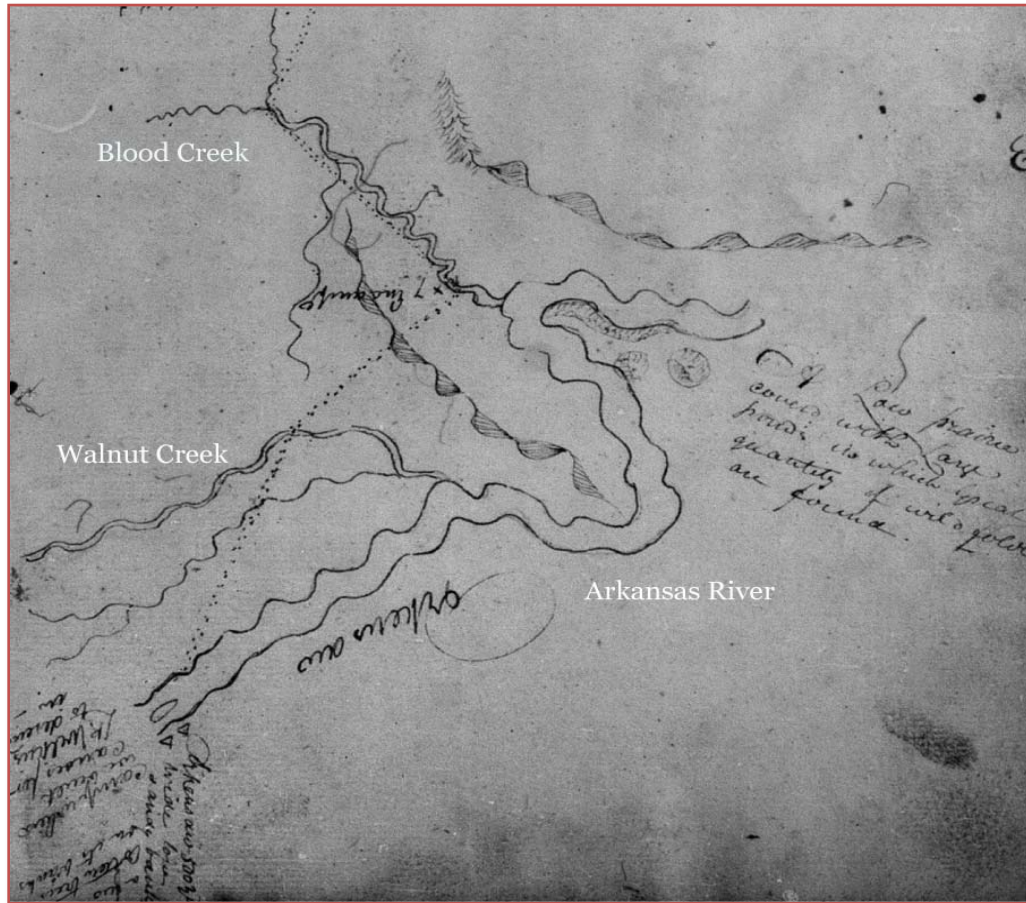


Figure 9.8. Pike Map 5 Crop.

Pike's map 5 is as clear as any he drew. This map also demonstrates his trying proclivity for writing text as he drew, which means that the reader has to spin the map to read text. Generally the maps are aligned properly with an "S" marking bottom page, "E" the right side. "Low prairies covered with large ponds on which a large quantity of wild fowl are found", is as good a description one is likely to find of *Cheyenne Bottoms*. The twin branches of *Walnut Creek* are clearly marked and follow Pike's customary pattern of bending courses as his hand moved left across the page. It was not just his compass that made for this tendency, and I suspect he was left-handed.⁸⁴ The only thing missing from this map is that he went up *Walnut Creek* quite a distance looking for Wilkinson before striking south for the Arkansas [35]

⁸⁴ The text above shows his writing sloping to the right. A handwriting expert could sort this.

Pike spent the 15th searching across “the low prairie...in search of the south trace”, the Spanish trail having been obliterated by bison. They returned to *Walnut Creek* and killed two bison. On the 16th they went west up the creek searching for Wilkinson—they had split into three groups—and returned to find many wolves at their buffalo. It rained again. On the 17th they determined to source *Walnut Creek* searching for Wilkinson; why they would not have proceeded to the Arkansas is a mystery; but Pike was obsessed with finding the Spanish trace. October 18th they finally headed for the Arkansas and were startled to find it three miles away. They were reunited with Wilkinson and camped on the north bank of the river [36].⁸⁵ On striking the Arkansas, Pike figured they had travelled 150 miles from the Republican town, their distance as mapped indicates 130 miles. Pike later wrote “I could now march it in 120” owing to all the detours they had made.⁸⁶

Pike described the Arkansas at the apex of the Great Bend in mid- October, 1806;

The Arkansas...had not water six inches deep, and the stream was not more than 20 feet wide ; but the rain of the two days covered all the bottom of the river...450 yards from bank to bank. These are not more than four feet in height, bordered by a few cottonwood trees ; on the north side is a low swampy prairie ; on the south, a sandy sterile desert at a small distance.⁸⁷

Here at last is an argonaut record of a desert with specific geography and environmental, as opposed to cultural, definition.

⁸⁵ Pike (1965 [1810]), v.2: 427. Pike maps 5 and 6.

⁸⁶ Pike. “Letter to Wilkinson,” (1965 [1810]), v.2: 592.

⁸⁷ Pike (1965 [1810]), v.2: 427-8.



Figure 9.9. Arkansas River 'desert' at Great Bend. Below Dundee KS [98° 51'W x 38° 18'N].

Unstated but clearly marked on map 6 is a substantial rise behind the north bank. Level prairies lined the north bank, and small hills the south.⁸⁸ Sunday October 19 the river began “rising rapidly”, and they crossed to the south bank [36]; it rained all day. On the 20th they cut down trees suitable for canoes. Their only dog was killed by a stray ball in a shooting contest, and the rain continued. On the 21st Pike and Dr. Robinson headed upriver and encountered bison, killing four. These were bulls, as are all bison encountered to this point. On the 23rd Pike and Robinson travelled upriver “about 20 miles to a large branch on the right.” They camped on the mouth of *Ash Creek* [38].⁸⁹ They saw a bison bull and “put 19 balls into him before we killed him.” On the 24th they went up the branch 5 miles searching for the Spanish trace unsuccessfully. They killed some prairie dogs and large rattlesnakes “which frequent their villages.” Pike was smitten with the prairie dogs and wrote a substantial essay on the subject, in

⁸⁸ Pike map 6.

⁸⁹ Later text makes clear they could not have been on Pawnee River.

which he called them by their so-called ‘Indian’ name *wishtonwish*—creating a minor legend.⁹⁰ This would be Pike’s “main contribution to natural history,” according to Donald Jackson, indicating why this environmental study of Pike is overdue.⁹¹ Pike situates this as the prairie dog’s preferred environment, “slopes of less than 4% and short vegetation”.⁹² The relationship is such that where prairie dogs were found, so was short grass. They returned to the main camp where they spent three days making hide canoes and Pike composed letters and an essay on prairie dogs.

Wilkinson: Down the Arkansaw.

October 28th the party split in two with Wilkinson, four soldiers and an Osage setting out in a pirogue and skin canoe to map the Arkansas to the Mississippi. Pike and the remaining fifteen proceeded up the Arkansas with the horses. Wilkinson’s poor reportage is summarized here. He would make no mileage notes and the only way to divine his location is by his mentioning of river junctions and other landmarks. As noted by Pike a winter storm hit the Great Bend on October 27th and 28th. Wilkinson said the “river was almost choked with floating ice” in the morning. These conditions would be extremely abnormal by modern standards. Since 1898 the October minimum temperature at *Wichita KS* is 47° Fahrenheit (8.3° Celsius), and the normal earliest trace snowfall is November 24.⁹³ The two parties separated and Wilkinson set out in his canoe, but did not get “more than 100 yards” before the boats grounded,⁹⁴ On the 29th the “river was so full of ice” they could not travel, and Wilkinson huddled under his canoe in a buffalo robe; the 30th was worse. October 31 Wilkinson gave up on the boats, threw “away all

⁹⁰ Pike (1965 [1810]), v.2: 429. *Wishtonwish* appears nowhere else in the historical record or apparently in any aboriginal tongue. Would that he had found other subjects, say, Indian agriculture, or ground-cover, as fascinating.

⁹¹ Jackson (1966): v.2, 86.

⁹² Evidence from another GIS study, a 1998 MS thesis by J.D. Proctor. *A GIS model for identifying black-tailed prairie dog habitat in the Northern Great Plains Shortgrass prairie*. University of Montana, Missoula Montana, 1998. Quoted in John L. Hoogland, ed. *Conservation of the Black-Tailed Prairie Dog*. (Washington: Island Press, 2006.):238.

⁹³ National Weather Service Online Wichita, Kansas. <http://www.crh.noaa.gov/ict/scripts/viewstory>. Accessed 15 February, 2011. Historical weather events from 1898.

⁹⁴ Lieutenant James Wilkinson. “Wilkinson’s Report on the Arkansaw,” 539-561. Pike (1965 [1810]), v.2: 547.

my clothing and provision” except for some dried corn, their rifles and robes, and set out “with a light and cheerful heart.”⁹⁵

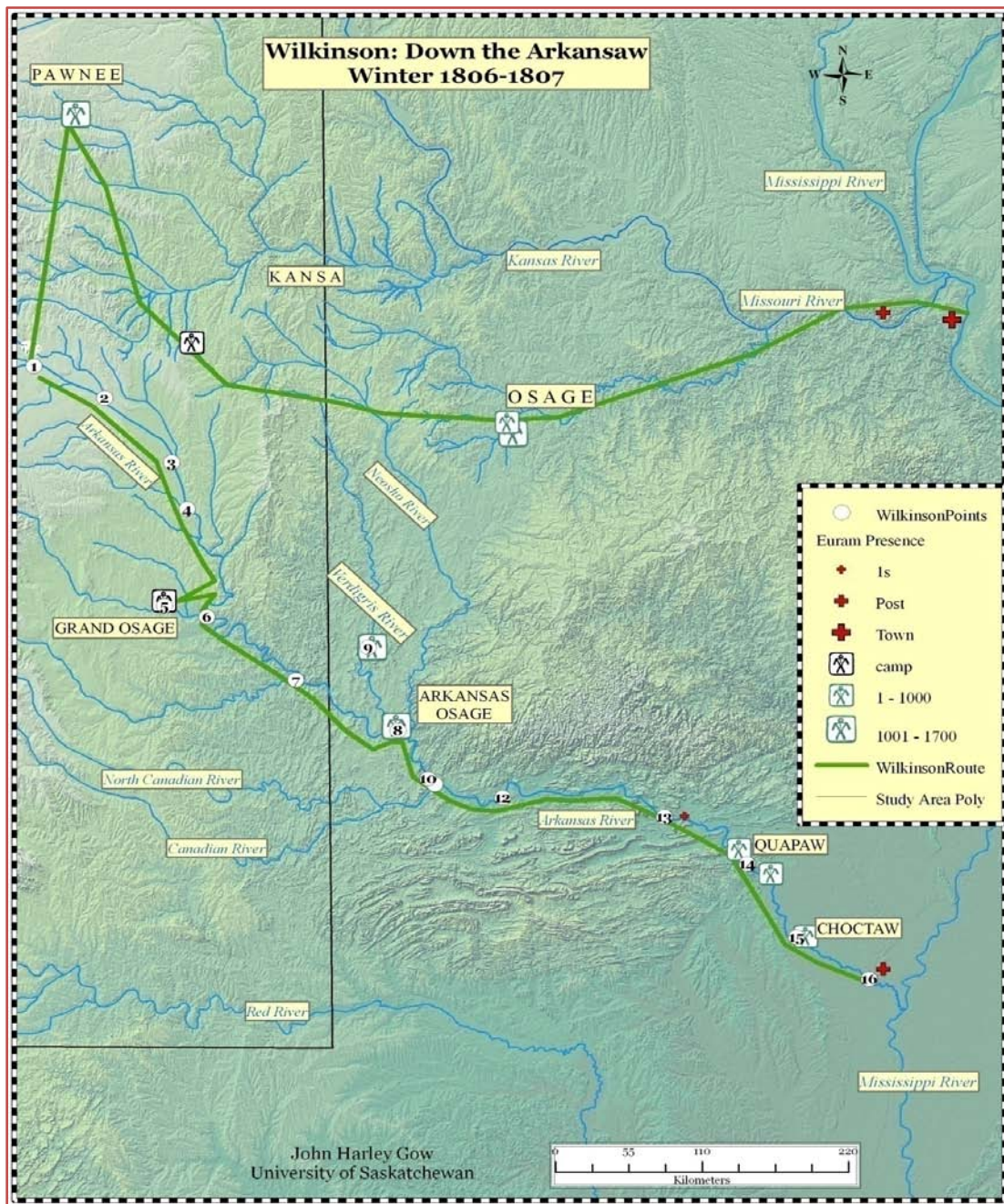


Figure 9.10. Wilkinson: Down the Arkansaw.

⁹⁵ Wilkinson, in Pike (1965 [1810]), v.2: 547. Wilkinson and Pike were very different individuals. Incidentally, he called Pike Lieutenant as neither knew Pike had been promoted in absentia.

Wilkinson feared the Pawnee and expected to be attacked the first few days. On the “1st, 2d, and 3d of November [he] marched over high and barren hills of sand” and passed salines; the shores of the river appeared to be completely frosted with nitre.” It is possible some of this was frost as he noted this “at the close of each day.” The country to Wilkinson was desolate, there was rarely a tree, and then but “a solitary cottonwood.”⁹⁶ On the 3rd he camped on the riverbank “without a tree or even a shrub in view.” There is a relentlessly negative cast to Wilkinson’s observations that do not always seem to stem from his surroundings. On the 4th it was heavy rain, which continued on the 5th and 6th. The 7th saw a terrible storm and they struck a “bold running stream...skirted by a chain of lofty ridges,” placing them at *Cow Creek* [2].⁹⁷ They had come some 35 miles in 11 days.

On the 8th it cleared up and they entered “the region of game; for the herds of buffalo, elk, goat [pronghorn], and deer surpassed credibility...[he] saw more than 9,000 buffaloes during the day’s march.”⁹⁸ On the 10th they struck another large stream—this could only be the Little Arkansas—and saw the first tree that was not a cottonwood [3]. Wilkinson thought he was just entering “the hunting ground of the Osages.” On the 12th they passed out of the “range [of] buffalo and goats...and entered that of the deer only” [**Polygon**: Region of game].⁹⁹ It is comments like this that reveal this document was either written or edited at the end of the journey. They now marched through “rich narrow bottoms” as opposed to salt flats. Perhaps it is counterintuitive that they passed out of the “region on game” and into “rich narrow bottoms”, but the plains herd animals, bison and ‘goats’, preferred the short grass open plains to the rich bottomlands.

November 15th they found timber “sufficiently large to form canoes,” and began to do so. Between pirogue-making and hunting their “winter’s store of meat,” they occupied themselves here until the 25th. For all Wilkinson’s protestations of harsh conditions, an unforced ten-day layover somewhat undermines the gravity of their situation. On the 25th they pushed off and ran aground after “a few hundred yards.” They pressed on however, and on November 26 they struck the “Negracka”, *Ninescah River*, having made 100 miles in a month, about three miles a

⁹⁶ Wilkinson, in Pike (1965 [1810]), v.2: 548.

⁹⁷ Coues has them at Cow Creek and then the Little Arkansas, but this is not credible. The first two streams were Rattlesnake Creek then Cow Creek.

⁹⁸ Wilkinson, in Pike (1965 [1810]), v.2: 548.

⁹⁹ Wilkinson, in Pike (1965 [1810]), v.2: 548.

day [4]. That day Pike was on the blue mountain having travelled 4-500 miles in the same frame. On the 28th “the provision canoe upset” and they lost both the dried meat and most of their ammunition.¹⁰⁰

November 30th they “fell in with a band of Grand Osages, who were in pursuit of buffalo cows”. It sounds like they were afoot, as later “two Indians of the Osage nation joined us, with a horse and a mule,” and an invitation from Wind, the Little Osage chief. Wilkinson left his men and canoes and went “about 20 miles across the prairie...to the chief’s temporary village.”¹⁰¹ Since they were hunting bison cows I make this to be 20 miles west on one of the branches of *Salt Fork Arkansas* [5]. Wind complained to Wilkinson about Osage-American relations. Wilkinson returned to his men and again set out downstream. Ice drifted in large sheets on the Arkansas. December 2 they reached the “Neskalonska”, *Salt Fork Arkansas River* in bitter cold [6]. The river froze over that day. Wilkinson made some rare observations here;

The Neskalonska is about 120 yards wide, shoal and narrow at its mouth, but deepens and spreads [upstream]. On this stream the Grand and Little Osages form their temporary fall hunting camps, and take their peltries. When the severity of winter sets in, the Grand Osages retire to ...the Verdigrise or [Vermillion] ; and the Little Osages to one of its small branches [Fall R.?]...where they remain during the hard winter, and thence return to their towns on the Neska or Osage river.¹⁰²

This is excellent information about the Osage seasonal round. The Grand and Little Osage lived at their respective towns spring and summer, undertaking a summer hunt for bison. Here they practiced the agricultural component of their year. The Little Osage moved down to the *Cimarron* plains in fall for hunting bison cows and trapping fur animals. In deep winter the Osages moved into quarters on the upper Verdigris for shelter and deer and bear hunting in the absence of bison. This seasonal round covers only some 400 miles (700 km) annually, exclusive of hunts and raids, in the horse age. Perhaps other groups in less productive environments—recall the various groups de Vaca encountered—would have had to travel longer distances annually. Wilkinson saw the last group (Wind) heading north.

Bitter weather continued as they set out December 6th, and one canoe was wrecked by ice. The men suffered as did Pike’s as both groups wore rags. December 10 they passed the

¹⁰⁰ Wilkinson, in Pike (1965 [1810]), v.2: 550.

¹⁰¹ Wilkinson, in Pike (1965 [1810]), v.2: 550.

¹⁰² Wilkinson, in Pike (1965 [1810]), v.2: 555.

Grand Saline, *Cimarron River*, which was “reddish [but] very clear”¹⁰³ [7]. Upriver he said the “prairie grass [was] incrustated with salt [which the] Arkansaw Osages obtain by scraping it off the prairie with a turkey’s wing[.]” The *Cimarron* however was “at all seasons of the year potable.” On the 23rd—there is no account of the 10th to 20th—there was a tremendous storm of “hail and snow” and they arrived at the “wintering camp” of Cashegara or Big Track, “chief of the Osages who live on Verdigrise River” the Arkansas Osage¹⁰⁴ [8]. Wilkinson stayed here until December 27th, presumably receiving hospitality; this is the same Osage who was menacing travelers according to Jefferson and Dunbar. Wilkinson passed the “Verdigrise and Grand (Neosho) rivers” on leaving, making Big Track’s campsite a strategic location. Wilkinson noted that the main town of Cashegara was about “58 or 60 miles up the Verdigrise”¹⁰⁵ [9]. Presumably this townsite was an agricultural one like the other Osage towns, however the the Grand Osage town was the focal point or agricardo of the Osage.

December 29th they passed a landmark, “a fall of near seven feet perpendicular”¹⁰⁶ [10]. Here he met the first American, a trapper named M’Farlane in company with a scout from an “Osage war party.” Also on the 29th they passed the mouths of two rivers, the “Illinois, which enters on the N.E. side, and of the Canadian river, which puts in from the S.W. The latter river is the main branch of the Arkansaw, and is equally large.”¹⁰⁷ This is the first iteration of the signifier, Canadian River I have encountered. The term appears nowhere in the Spanish literature. That the river is first named from its eastern approaches lends credence to the theory that its name stems from the French ‘Canadian’, as opposed to the Spanish *cañada*, or canyon. The first time this signifier appeared on a map was the Nau map [11].

Wilkinson then passed the Pottoe (Poteau) River on the 31st, the last landmark of his journey [12]. From this point on the journal introduces a problem I have not seen addressed elsewhere; the rate of descent of the lower Arkansas and the dearth of detail of that part of the journey. Wilkinson went from the Poteau to Arkansas Post December 31 to January 9. This is a distance of at least 250 river miles, meaning they made at least 25 miles per diem. Considering it took them 28 days to make roughly the same distance from the *Salt Fork Arkansas* to the

¹⁰³ Wilkinson, in Pike (1965 [1810]), v.2: 555.

¹⁰⁴ Wilkinson, in Pike (1965 [1810]), v.2: 556.

¹⁰⁵ Wilkinson, in Pike (1965 [1810]), v.2: 557.

¹⁰⁶ Webber’s Falls, OK. [35° 30’ N x 95° 9’]. Coues note, Google Earth, ‘Places’ layer.

¹⁰⁷ Wilkinson, in Pike (1965 [1810]), v.2: 558.

Poteau—say, 2.5 miles per diem—the latter record makes one skeptical. There is no accounting for these figures but to acknowledge the temporal issue.

January 6th 1807 Wilkinson passed the first plantation or farm of a settler, that of M. “Labomme, and was more inhospitably treated than by the savages themselves” [13]. On the 8th he passed two towns of Quapaw, Osage cousins, and on the 9th two towns of immigrant Choctaw¹⁰⁸ [15], before striking “Arkansaw Post” on the 9th¹⁰⁹ [16]. Long would demonstrate in 1820 that the Choctaw and other immigrant groups were positioned between the Quapaw and Arkansas Osage.

¹⁰⁸ The majority of Choctaw were removed from the Southeast to Indian Territory in the 1830s. To the 1750s the Choctaw had a highly defined territory on good agricultural lands above *Mobile AL*. This group was an early arrival having more to do, I suppose, with Quapaw depopulation than Choctaw aggression.

¹⁰⁹ Wilkinson, in Pike (1965 [1810]), v.2: 559-560.

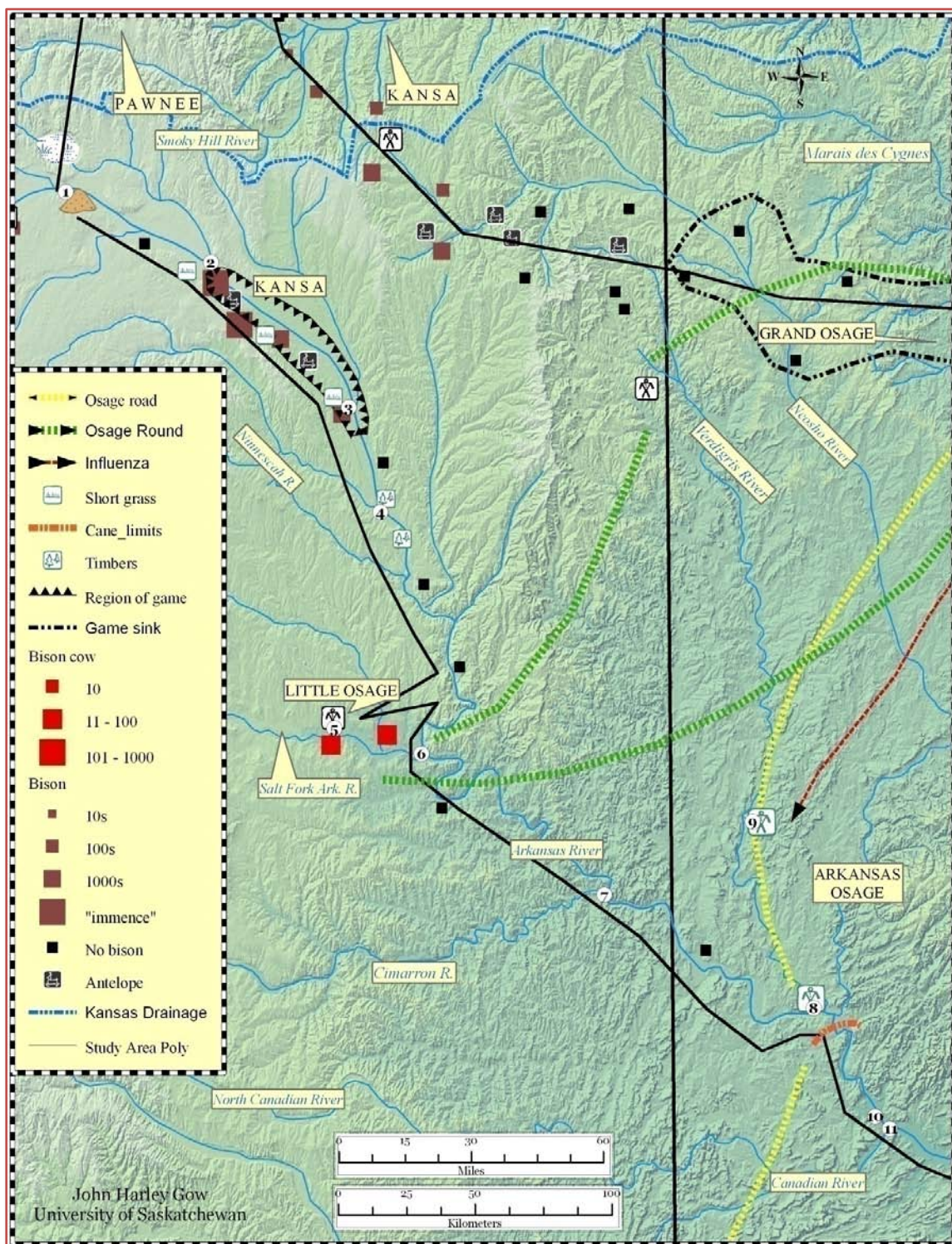


Figure 9.11. Wilkinson Environmental.

Wilkinson provided some information on aboriginal locations in 1806-07. Given the relative descriptions it was the Grand Osage that was the heart of the Osage realm. The Osage road went through the Arkansas town to the main town. The Arkansas town controlled access up the Arkansas and gave the Osage easy reach, roughly 100 miles, to the Taovaya and Caddo towns and resources. Wilkinson never saw a feral horse, and it sounds like horses were a very rare commodity on the lower Arkansas, since he noted the arrival of one horse and a mule. Since Wilkinson and Pike saw no surplus caught horses, this easy access to the southern horse herds must have been critical for Osage survival. Pike shows no Osage presence about the Arkansas above the *Salt Fork Arkansas*, meaning that Pawnee and Comanche domination excluded Osage from acquiring horses from New Mexico.

Since bison were a vital part of the Osage economy, maintaining control of the Arkansas below Great Bend was critical. Other sources show that bison had disappeared from the lower Arkansas and Red by 1806. Since bison cows were not found in numbers at, or east of, the Great Bend, the Kansa and Pawnee effectively blocked the Osage from the Arkansas herds. Wilkinson reported an Osage cow hunting camp and not cows along the Salt Fork Arkansas. Perhaps cows were present but Long would demonstrate this was an Osage road to the Lower Bend Arkansas. This critical bison cow hunt allowed the Osage to fall back onto their sheltered winter camps on the Verdigris, which were game sinks. Access to all these regions was critical to the survival of the Osage. Wilkinson also demonstrates that if there had been agricultural Indian presence on the descending Arkansas in early historical times—Coronado, Oñate—every trace had now disappeared. There was no aboriginal presence on the Plains Arkansas but for the Osage.

Did Wilkinson think the plains a desert? Since his impressions did enter the public record, his summarizing marks are of interest, particularly since he did find both dunes and salt plains:

The surface of the country between the Osage towns and the Pawnee village is generally broken and naked ; the soil sterile, and abounding with flint and lime stones. As you approach the waters of the Kanes, it becomes hilly and sandy. The same may be said of the country between the Pawnee village and the Arkansaw ; but after passing the ridge which separates the waters of the Kanes and Arkansaw, the surface becomes more regular and less stony.

Below the Verdigrise the shores of the Arkansaw are generally lined with cane, and consequently rich bottoms. I was informed by the Indians that the country to the

northwest of the Osage village abounds with valuable lead mines, but I could make no discovery of any mineral.¹¹⁰

This is a reasonable summary, but for the fact that Wilkinson avoided any mention of Indian agriculture and the good lands on river bottoms. That he identified the short grass plains as distinct from the prairie can only be extracted from this text if one has familiarity with the biomes. That he identified the “ridge which separates the waters of the Kanes and Arkansaw,” as did Pike, is significant in relation to bison and feral horse ranges. The northern limit of cane growth is of interest as well, as cane has spread in the agricultural age as far up the Arkansas as the Rockies. Again, the withdrawal of bison from the lower Arkansas, the destruction of the Arkansas agricardo and Indian depopulation generally account for the cane on what was formerly Indian agricultural areas.

Apart from one plantation, euramerican immigration had yet to advance up the Arkansas in 1806. That the Choctaw had two towns above Arkansas Post shows that the process of Indian emigration across the Mississippi was already underway in 1806. Did Wilkinson report a desert, then? No, but neither would his account stimulate a rush for settlement in the Osage lands, but for one consideration. That Pike and Wilkinson were able to negotiate with and freely move through Osage territories must have signaled that this part of the Louisiana Purchase might well be settled in due course.

Pike: Up the Arkansaw.

Meanwhile, Pike and the remaining fifteen men proceeded up the Arkansas with the horses. They made fourteen miles and killed a buffalo of which they took “only *his* marrow-bones and liver,”¹¹¹ further evidence that they had found only bull bison to this point [**Point 39**]. On the 29th they struck a famous landmark, *Pawnee Rock* [**40**] after an hour’s march. It was decorated with new paintings of a hunting party with “seven guns” and they reckoned there to have been “21 Indians”.

¹¹⁰ Wilkinson, in Pike (1965 [1810]), v.2: 560-561.

¹¹¹ Pike (1965 [1810]), v.2: 432.

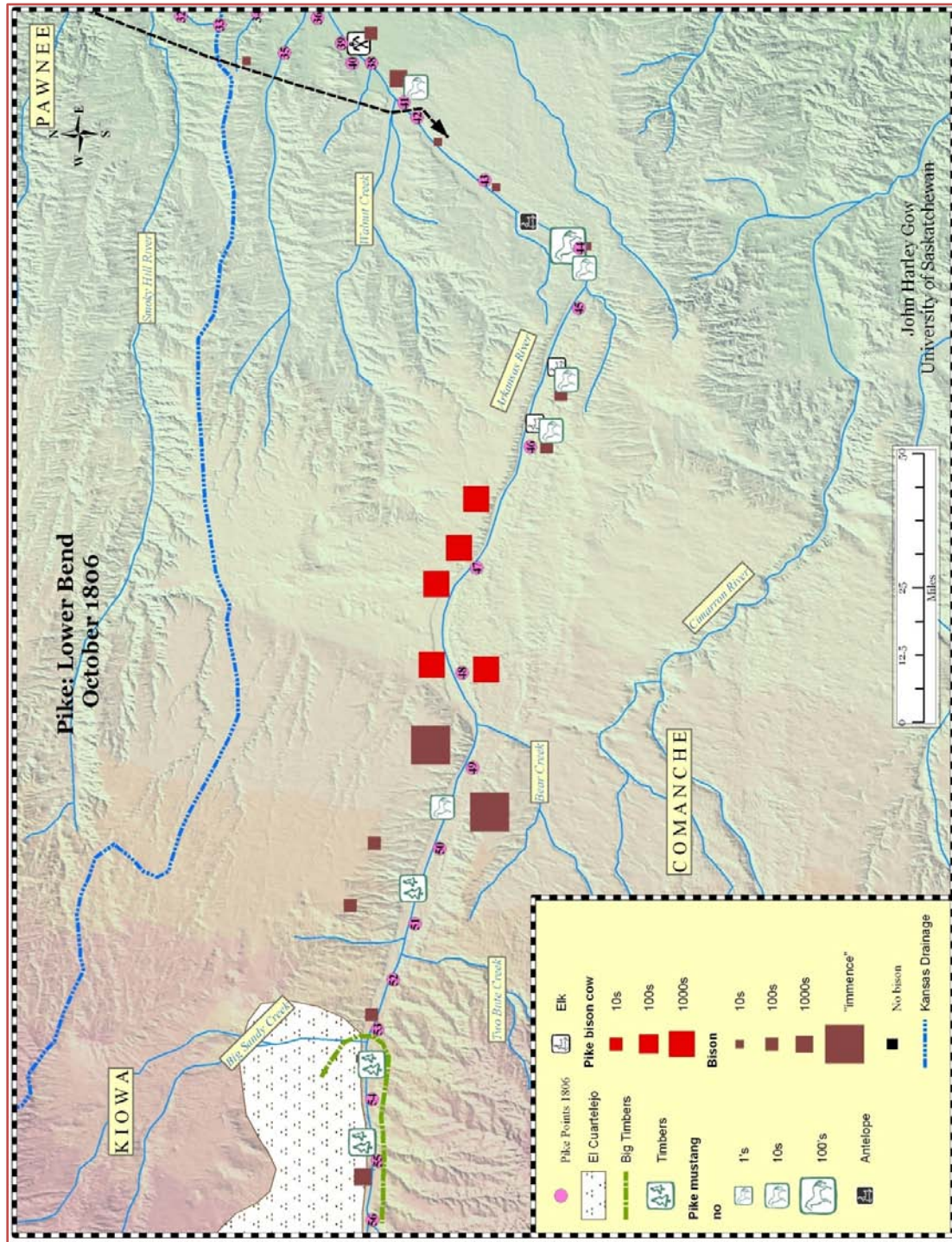


Figure 9.12. Pike Lower Bend.

They passed a herd of buffalo and two “wild horses” feeding with them, the “first wild horses [they] had seen...[o]ne appeared to be an elegant horse.”¹¹² That afternoon they “struck the Spanish road”, suggesting the “wild” horses were likely Spanish strays. That night “snow fell two inches deep” and Pike and the doctor forded the Arkansas to look at the Spanish camp with difficulty since “the ice [was] running very thick[.]”¹¹³ This locates the Spanish crossing from the Republican town. The huge Spanish remuda left the “ground...covered with horse-dung for miles around,” this was where Melgares had left the 200 plus soldiers for his dash to the Pawnee. They made 12 miles this day, likely camping at the mouth of *Pawnee River* [41]. Pike’s map 6 shows them going up a stream before crossing and striking the Spanish road, then crossing two streams and the Arkansas; *Pawnee River*, and *Sawmill Creek*.

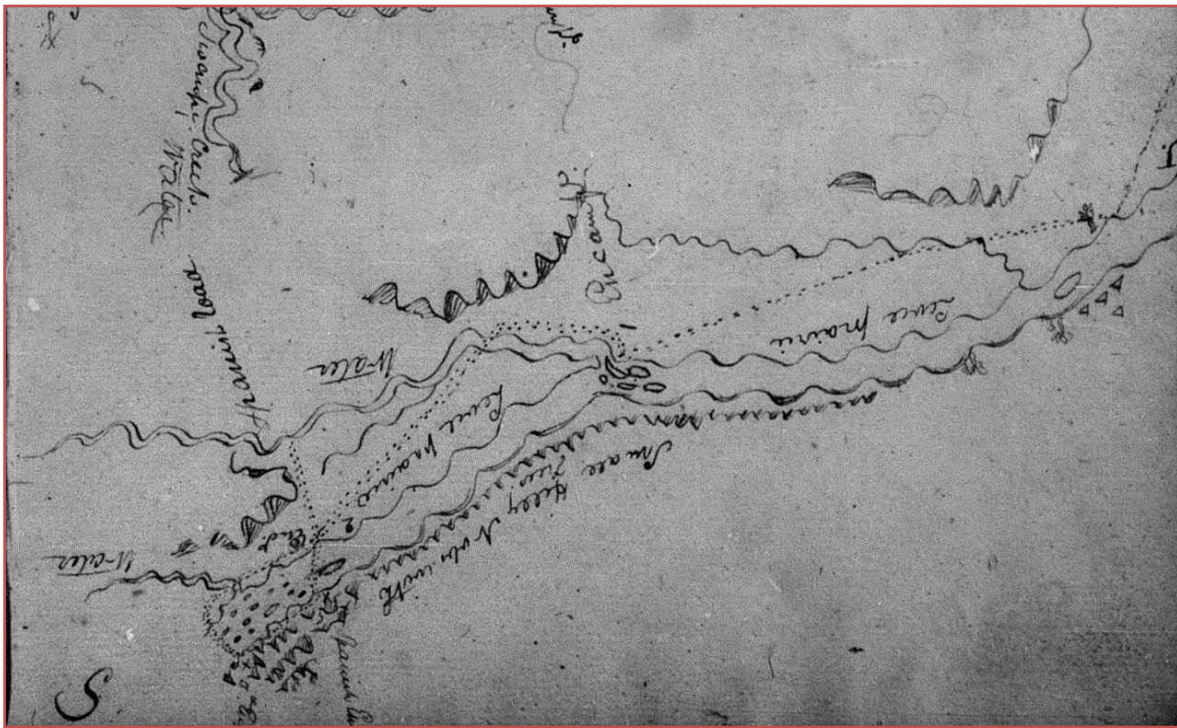


Figure 9.13. Pike Map 6 crop.

¹¹² Pike (1965 [1810]), v.2: 433.

¹¹³ Pike (1965 [1810]), v.2: 433. Neither the journal nor the Traverse Tables gives any clue of approaching winter weather.

October 30th they made four miles [42], killed a buffalo and ate “*his* marrow-bones for breakfast.”¹¹⁴ They found signs of a very recent camp of a “party of savages.” They killed more bison for dinner. This day they also crossed to the south bank where they stayed until reaching the foothills around *Pueblo CO* making them the singular case of a group to do so. The only obvious explanation for this was their intent to follow the Spanish road. On the 31st they made sixteen miles “on the Spanish road”, the south shore. They observed “a species of crystallization on the road...in low places where there had been water settled; on tasting it found it to be salt.” Pike thought this lent some authenticity to the “report of the prairie being covered for leagues” with this ‘efflorescence’ [43]. Still, Pike reported no desert and these salt ponds were small and localized. They discovered another Indian campsite, and reckoned they had been following the Spanish.¹¹⁵ They saw small numbers of bull bison and elk.

November 1 they marched early and camped on an island in the Arkansas after 25 miles [44].¹¹⁶ That they were on an island indicates they may have briefly crossed the river which helps locate that day’s observations. Pike map 6 shows a large “level Prairie” running on the north shore upriver from the Lower Bend. In the morning a large “band of cabrie came up among [their] horses.” They killed two although they did not need the meat, but the pronghorn had to be driven away; these animals were not habituated to hunters. Later that day using his glass, Pike “observed on the prairie a herd of horses.” Upon approaching the mustangs, the animals ran up to Pike and Robinson “making the earth tremble them [reminiscent of] a charge of cavalry...among them...were some very beautiful bays, blacks, and grays[.]”¹¹⁷ Pike tried to crease one with his rifle to bring it down but failed. The horses followed them to camp, keeping at a distance.¹¹⁸ This was their first sighting of a number of feral horses. The following day, Pike noted that the “[h]ills changed to the north side,” meaning that until then they had been to

¹¹⁴ Pike (1965 [1810]), v.2: 434. Emphasis mine.

¹¹⁵ Pike did not realize the Arkansas was a highway for trans-Plains travelers.

¹¹⁶ The journal does not give the mileage, but the Traverse Table does. Coues estimated 16 miles, proving he did not have Pike’s originals. The map Coues referred to was the flawed Nau map.

¹¹⁷ Pike (1965 [1810]), v.2: 437.

¹¹⁸ Mustangs attempted to drive off caught horses, and guards had to be posted to keep this from happening. Later in Texas Pike’s Spaniard captors placed outriders to keep mustangs from running off the remuda while travelling. For Pike’s dissertation on horses and Texas, “Through Texas to Natchitoches,” Pike (1965 [1810]), v.2: x 718-806. At, 783.

the south. This helps site Pike's observations on the north shore about the Lower Bend; the horses had been grazing on *Coon Creek*.¹¹⁹

Sunday morning they tried various unsuccessful strategies to catch mustangs. Pike would later write an "account of wild horses and the manner of taking them" in his "dissertation on the province of Texas."¹²⁰ They marched late and made 13 ½ miles; the "[r]iver turned to north by west" after three miles.¹²¹ They killed a bull buffalo for dinner [45]. Pike's map 6 (Fig. 9.14) shows the ridge on the north bank and *Mulberry Creek* flowing in from the southwest.¹²² This point marks an exact concordance between Pike's accumulated mileage, 85 miles, and the measure tool. This point also marks a strange divergence between Pike's records and physical reality. Both Pike's daily estimate of travel and observed direction of travel now began to stray from reality. He began to overestimate daily travel by about a third. Further, as soon as he rounded the Lower Bend, his sense of direction seemed to leave him. The most obvious proof is map six. Pike's depiction of the Arkansas from Point 34 has it running about 35° east of due north, almost exactly correct. However, Pike's depiction of the upstream branch has it running almost due west. In reality this leg of the river runs about 25° to the north of due west. This phenomenon is noted elsewhere in Pike, but this is the most egregious example, particularly when combined with his newly developed exaggeration of distances.

¹¹⁹ This is the "5 Encamp." On Pike map 6.

¹²⁰ Pike (1965 [1810]), v.2: 433, 783. Pike, Traverse Table "From the Pawnee."

¹²¹ Pike (1965 [1810]), v.2: 436.

¹²² Some 4-5 miles upriver from *Ford KS*. 'Places' layer, DeLorme *Kansas*: 57 I-10.

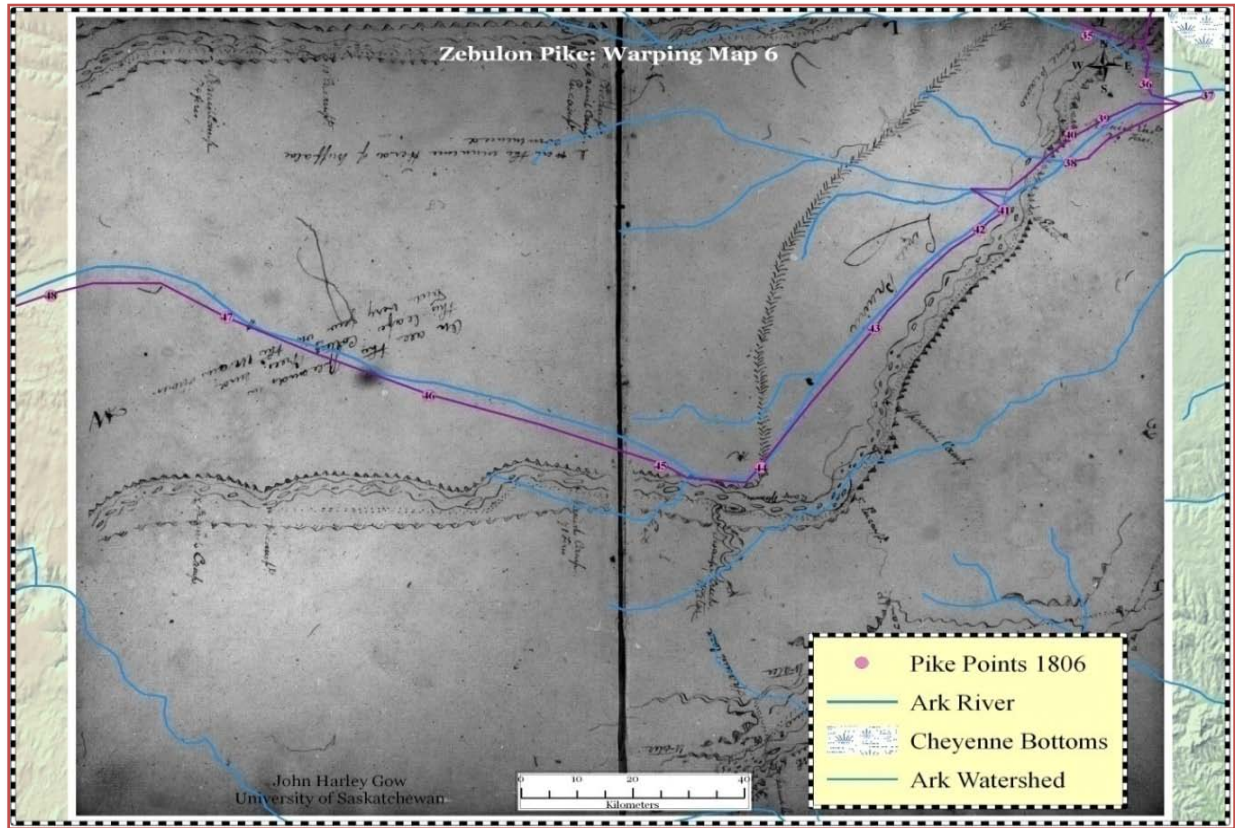


Figure 9.14. Pike, Lower Bend. Pike Map 6 georectified.

November 3rd they marched 25 ½ miles passing “Numerous herds of buffalo, elk, some horses, etc., all travelling south.”¹²³ Vial, Long, and others commented on herds of elk on the Central Plains. Lewis and Clark found them to be “common to every part of this country, as well the timbered lands as the plains.” Olaus J. Murie noted the association of elk and bison and wrote it is “an undisputed fact that formerly hordes lived on the plains”, and that these animals migrated in large herds in company with bison.¹²⁴ That Pike noted them moving south corroborates Murie’s contention that elk “went from the mountains to the plains each winter in great numbers”, and it is commonsensical that “an animal so widely distributed as the elk and tolerant of such a diversity of habitats would occupy the plains to some extent” year-round. Perhaps they were attracted by the “river bottoms full of salt ponds; grass similar to our [New

¹²³ Pike (1965 [1810]), v.2: 437. I presume the “etc.” to have been cabrie, nothing else springs to mind.

¹²⁴ Olaus J. Murie, ed. *The Elk of North America*. (Harrisburg, PA: Stackpole Books, 1982): 47ff.

Jersey] salt meadows.”¹²⁵ This is one of the few observations Pike made about groundcover. However, it is instructive to note that what would have been a ‘prairie’ earlier was now a meadow. The short grass regime had become prairie to Pike[46].

November 4th Pike put bison distributions in sharp perspective. The “north side of the river” on the highlands was “covered with animals”, meaning bison. This was the first iteration of a great herd of bison to this point; Pike’s language is unequivocal. Further these animals “proved to be buffalo cows and calves” and it was no exaggeration to say

there were 3,000 in one view. It is worthy of remark that in all the extent of country yet crossed, we never saw one cow, and that now the face of the earth appeared to be covered with them.¹²⁶

All of the animals seen to this point were bulls, and those in scattered bands or smaller herds. It is difficult to overemphasize the importance of Pike’s observation. Pike made the correlation between bison cows and calves and the short grass steppe clear. In 1806 the central to eastern plains and certainly the tallgrass prairie was devoid of bison cows. Females were found only from 100°30 west longitude into the valleys of the Rocky Mountains. This is also the commonly accepted boundary of the sub-humid region of the Great Plains. Further, all the sources looked at so far that provide data on bison sex make it clear that the steppe was where bison cows were found, particularly in autumn and winter. In the early historical period bison on the Arkansas plains were distributed with the cows and calves exclusively found west of 100° with large herds of bulls located east of 100° and smaller numbers of individual animals scattered to the east of the Arkansas Great Bend. They camped that night after 24 ½ miles [47].¹²⁷ The next day, November 5th, they got “foolishly” caught up in hunting—Pike realized winter was approaching—“Some cows and calves, which lay on the [north] side of the river”,¹²⁸ and made only two miles.

On the sixth they marched early but were slowed by “the cows which we killed.” Pike explained this fixation with hunting bison cows.

¹²⁵ Pike (1965 [1810]), v.2: 437.

¹²⁶ Pike (1965 [1810]), v.2: 438.

¹²⁷ The Traverse Table *From 37°44'.9"* for the day is problematic; it shows for “4 N 06” W-9 / S.W-3 / S80 W-12½ = 24 1/2.” The directions should be NW, there is no reconciling the distance travelled to this point and these directions.

¹²⁸ Pike (1965 [1810]), v.2: 439.

The cow buffalo was equal to any meat I ever saw, and we feasted sumptuously on the choice morsels. I will not attempt to describe the droves of animals we saw on our route ; suffice it to say that the face of the prairie was covered with them, on each side of the river ; their numbers exceeded imagination. Distance 16 miles.¹²⁹

Pike Map 6 marks this spot as “Here the immense Herds of Buffaloe commenced.”¹³⁰ It is obvious from the text that Pike’s pious intentions about not wasting shot and unnecessarily shooting animals had now gone by the board. The great mass of bison protein inspired ‘buck-fever’ and wasteful practices in many, perhaps all, of the argonauts and many of the Indian groups encountered [48].

November 7 they rounded the little bend at 101° west, and camped some miles past the lower end making 18 miles [49].¹³¹ The continued presence of bison cows and calves belied Pike’s interpretation of the grass regime as “herbage being very poor.” This was obviously the short grass steppe the cows preferred, and it might have been palatable to Pike’s horses. These were not army horses used to oats and hay but caught horses purchased from the Pawnee. Remember that Pike stuck to the river bottom the entire trip, off the plains. This was in large part because of their fear of losing the Spanish trace, but was a flawed strategy. The Spanish had followed this course in summer when the tall and mixed grasses along the Arkansas held nutrition, but Pike’s progress was during early winter when tall grass was stripped of nutritional value. The sensible course to follow, as would all later argonauts and eventually settlers, was to track above the north shore on the short grass plains.¹³² The dominant buffalo grass on the uplands held its nutritional value through the winter and would have supported Pike’s horses far better than the valley fodder, as it demonstrably did bison cows.¹³³ The argonauts stayed in camp to rest their exhausted horses on the 8th as they had no extras. They mended moccasins and jerked bison meat; the bison numbers had thinned as quickly as they had thickened but a few days earlier.

¹²⁹ Pike (1965 [1810]), v.2: 440.

¹³⁰ Pike Map 6, top range at Encamp 9.

¹³¹ Pike (1965 [1810]), v.2: 440. Pike map 7, bottom to middle image just shows the little bend. Traverse Table shows 9 miles southwest.

¹³² Pike was nearly unique in following the south shore. In 1844 John C. Frémont figured this out when he observed his horses failing as they transitioned from “the buffalo grass” plains to the tallgrass prairie. Quoted in White (1988 [1983]): 182.

¹³³ Many tall or warm season C₄ grasses lose 50% of their nutrition by high summer. Even when they are at peak nutrition, they contain much less nutrition by volume than do cool season C₃ short grasses. David J. Gibson. *Grasses and Grassland Ecology*. (Oxford: Oxford University Press, 2009): 68-69.

Sunday November 9 they “marched early” and struck the Spanish road at noon, after fifteen miles. They counted 96 fire pits and came to the “reasonable conclusion” there had been 600 to 700 men here. Importantly they passed into another type of land formation: “the face of the country considerably changed, being hilly, with springs” which attracted “numerous herds of buffalo and some horses.”¹³⁴ The journal has them making 27 miles; this is not credible given their circumstances. They made 17 miles according to the Traverse Table [50].¹³⁵ On the 10th the “hills increased: the banks of the river covered with groves of young cottonwood ; the river itself much narrower and crooked.” Following aboriginal practice they cut down young cottonwoods to feed their horses.¹³⁶ There were still buffalo about them, but their numbers were lessening, and it sounds like they were again bulls. They claimed 20 miles although reporting “horses growing weak”; this is not credible, and Pike’s daily estimates become unreliable. I figured this day’s march at 15 miles [51]. For mapping the next several points the practise followed was to take the next sure point, the “1st fork”, or Purgatoire River [56], and try and estimate the intermediary points between.¹³⁷

November 11 they passed three old Indian campsites, “we supposed Tetaus”, or Comanches, and also another Spanish camp. The Spanish had stayed here several days and Pike reckoned it was “to lay up meat, previously to entering the Tetau country, as the buffalo evidently began to grow much less numerous.” The trip was wearing on Pike and he vowed to finish the expedition regardless of schedule, “even if it should oblige me to spend another winter in the desert”¹³⁸ [52]. I presume this was a cultural term because they were marching through

¹³⁴ Pike (1965 [1810]), v.2: 440. Passing from *Kansas* to *Colorado*. Although the border is an arbitrary line, 102°02’45” W, it coincides with an obvious shift in terrain. The stream-less highland to the south of the Arkansas breaks here, and there were and are now a tangle of streams and springs in the area.

¹³⁵ From Pike map 7 and Traverse Table. Elliot Coues took the 27 miles as gospel and his mapping logic from this point to the Purgatoire is not comprehensible as a result.

¹³⁶ Pike (1965 [1810]), v.2: 441.

¹³⁷ Pike’s cumulative daily distances from the last SW leg November 6th to his striking the Purgatoire November 15th is: 18, 27, 20, 24, 20, 12, 10, 24 = 155 miles. The actual mileage between the Purgatoire and Bear Creek figured generously is 100 miles along the river. Pike’s fine eye with distances on the plains did not work in the foothills, apparently. Also, their horses were progressively failing and I am guessing travelling at half pace compared to earlier. If they travelled the same number of hours as on the plains they were making half the mileage. This totally baffled Coues who had them dashing thirty miles in a day to match the Nau map.

¹³⁸ Pike (1965 [1810]), v.2: 441.

cottonwoods, but there were a number of negative aspects on his mind. He was concerned with the Tetaus and Spanish both, his horses were failing, and bison began to thin.

They spent the night of November 12 below the *Big Sandy Creek*, the only stream to the north on the map, and the most substantial stream for miles in either direction [53].¹³⁹ During the day they had to leave two horses behind “which entirely gave out”, and killed a buffalo. On the 13th the “riverbanks began to be entirely covered with woods on both sides, but no other species than cotton-wood.”¹⁴⁰ This is a reasonable point to consider the eastern edge of the *Arkansas Big Timbers* [Polyline: Big Timbers].¹⁴¹ The presence of cottonwoods is evidence of sandy lowlands with a high water table. This day they saw much sign of aboriginal presence and a hunter saw “a man on horseback, ascending a ravine on our left,” likely *Dry* or *Willow Creek*, the first person they had seen since the Pawnee above the Great Bend in mid-October.¹⁴² They wounded several buffalo, bulls again, and saw a turkey, “the first...seen since we left the Pawnees.” The birds favored the cover of the cottonwood forest [54]. This also tells us that the Republican Pawnee site was not denuded of trees despite their horses and agriculture.

They were now passing under territory earlier identified as El Cuartelejo, the Apache agricardo. The conjunction of Pike’s observations of timber and bison gives some clues to Apache lifeways. It was mystery as to why the Apache took a roundabout route from New Mexico (see Ulibarri) when following the Purgatoire would have saved many miles and offered better water and grazing. Prior to the Comanche descent to the Plains there was no evidence of non-Apachean groups being between New Mexico and El Cuartelejo, and it does not seem likely the Apache were militarily excluded from the upper Arkansas valley. Perhaps there was an environmental reason for their avoidance of the valley. Pike and Long both evidence the valley was an important grazing site for bison cows. It is possible the Apache avoided the Arkansas because of the bison resource

¹³⁹ Pike map 7, 15 Encamp.

¹⁴⁰ Pike (1965 [1810]), v.2: 443.

¹⁴¹ There were several other Big Timbers on the plains. This Big Timbers is known to have retreated back up the Arkansas in historical times.

¹⁴² This mention really stands out in the text as it is perhaps the only iteration of Pike employing the non-racial specific ‘the man’ as opposed to his usual identifiers.

November 14th they made ten miles and “passed a point of red rocks and one large creek.”¹⁴³ Coues makes this out to be the *Big Sandy*, but he was fooled by Pike’s mileages, and Pike map 6 has the “Clear Creek / Water-Deep” running from the south. This might have been the elegantly named *Mud Creek* which takes in the waters of *Toe Jam Spring*.¹⁴⁴ This day they passed what would later become *Bent’s New Fort* [102°45’37”W x 38° 5’37”N]¹⁴⁵ [55]. November 15th found them on the “1st fork” of the Arkansas, the *Purgatoire River* [56]. They passed through “large herds of buffalo”, sex unspecified. They passed two “deep creeks”, *Caddoa* and *Rule* Creeks; Pike called them Buffalow and Look Bute Creeks.¹⁴⁶ Early afternoon Pike saw with the spy glass;

A mountain to our right [north], which appeared like a small blue cloud...in half an hour [the mountain] appeared in full view before us. When our small party arrived on the hill they with one accord gave there cheers to the Mexican mountains.¹⁴⁷

The “small blue cloud” was the peak that would eventually wear Pike’s name, almost exactly 100 miles to the WNW.¹⁴⁸ To attain this view they ascended the height of land some 5-10 miles below *Las Animas CO*, now *Black Mesa* (5214 ft.). This accounts for the *Look Bute Creek* signifier.¹⁴⁹

November 16 some verisimilitude returned to Pike’s mapping, direction, and distances. They made 11 1/2 miles along a river Pike thought “much more navigable” than below. The Spanish road continued along the Arkansas. Map 8 shows them passing *Adobe Creek* and

¹⁴³ Pike (1965 [1810]), v.2: 441.

¹⁴⁴ You can’t make this stuff up. DeLorme *Colorado*: 99, E8. [102°57’W x 37°59’N].

¹⁴⁵ This is the place where Goddamn Murray set up an outlier of the original Bent’s Fort. William Bent moved his family and operations to this point about 1852. Here the Cheyenne originally wanted Bent senior to construct his fort. For a highly readable history of the Bent saga, David Fridtjof Halaas and Andrew E. Masich. *Halfbreed: The Remarkable True Story of George Bent*. Cambridge MA: Da Capo Press, 2004. William Bent incidentally was not a ‘halfbreed’ as were all of his children including the remarkable George Bent. William and his older brother Charles began fur-trapping and trading along the Missouri 1826-27.

¹⁴⁶ Pike (1965 [1810]), v.2: 443-4, and Pike map 7.

¹⁴⁷ Pike (1965 [1810]), v.2: 444.

¹⁴⁸ In perfect atmospheric, unusual today, you can just make out Pike’s Peak from above La Junta, but the image is ghostly in photographs.

¹⁴⁹ Pike was not much given to naming places, and those names he did bestow rarely took. His presence has almost disappeared locally in contrast to Lewis and Clark who are everywhere immortalized. Uniquely, Pike never named any place after himself in the fashion of Lewis & Clark and other argonauts; neither did he bestow his employers’ names.

camped on a second stream from the north, *Horse Creek* [57].¹⁵⁰ Pike's journal for the 17th reveals a common misperception that the Rockies are closer than they appear to be; "pushed on with an idea of arriving at the mountains, but found at night no visible difference in their appearance. They made 23 ½ miles passing streams from the south, and had to leave another horse behind [58]. Early in the morning they passed the site of the future *Bent's Old Fort* [103°25'31"W x 38°02'23"N].¹⁵¹



Figure 9.15. Bent's Old Fort, looking southwest. Line of cottonwoods at the Arkansas River background. None of these trees would have been standing back in the day both for reasons of security and firewood gathering.

They held this camp for the 18th as "fresh signs of the savages" convinced them it was sensical to "stop and kill some meat, for fear we should get into a country where we could not kill game." They believed they were approaching a major Tetau camp and anticipated entering another game sink as they had around the Pawnee and Osage agricardos. That they killed "17 buffalo and wounded at least 20 more" meant there were many bison on their road, and endeared them to local carnivores. On the 19th Pike decided it "expedient" to remain in camp and jerk bison meat for the road ahead. Of course this meant their horses could rest and there must have been adequate grazing at this point, despite the bison presence. They had a "general feast of

¹⁵⁰ Pike (1965 [1810]), v.2: 445. Pike has them heading due west and the mileage is exact. Pike Map 8, and Traverse Table "from 37°..."

¹⁵¹ Built by brothers Charles and William Bent and Ceran St. Vrain in 1833

marrow-bones, 136 of them furnishing the repast.” Pike scaled a height and made an interesting sketch of “courses to the different mountains.”¹⁵²

On the 20th Pike set out burdened by “900 lbs. of meat...moved slowly and made only 18 miles”,¹⁵³ yet still killed some bison for fresh meat [59]. On the 21st they noticed more human sign and proceeded nervously. They also “passed two Spanish camps, within three miles of each other”; the likeliest explanation being that this was the sign of two Spanish expeditions. This could well be the campsite of an unsuccessful 1805 peace overture to the Skidi Pawnee on the Platte.¹⁵⁴ Pike noted the river was navigable and astutely thought the lower river flowed through “sandy soil, which must absorb most of the water” [60]. November 22nd they made five miles on prairie descending into a bottomland when their forebodings were made flesh and guide Baroney “cried out ‘Voila un Savage!’”¹⁵⁵ They feared the worst, but it was only a war-party from the Grand-Pawnee returned from an unsuccessful raid to retrieve stolen horses from the Comanche.¹⁵⁶ These Pawnee numbered “60 warriors, half with fire-arms and half with bows, arrows, and lances.”¹⁵⁷ They were not mounted, and had walked from the Pawnee towns to the Canadian steppes and were now walking home. The meeting was tense and Pike proffered many presents. Pike and company escaped with horses and gear but lost many articles.¹⁵⁸ Pike was:

Sincerely mortified, that the smallness of my number obliged me to submit to the insults of lawless banditti, it being the first time a savage ever took anything from me with the least appearance of force.¹⁵⁹

They passed the 2nd fork, the Huerfano River [61] this day, unremarked in the journal but noted on map 8. They killed some bison, bulls again, at camp. On the 23 they marched 17 miles passing the “third fork”, the *St. Charles River*, and pressed on to “the point of the grand forks”,

¹⁵² Pike (1965 [1810]), v.2: 447. Marrow was taken from femurs, four to an animal, split and roasted. Various called Indian butter or Prairie butter.

¹⁵³ Pike (1965 [1810]), v.2: 447.

¹⁵⁴ George E. Hyde. *The Pawnee Indians*. 2nd ed. (Norman: University of Oklahoma Press, 1988[1951]): 150.

¹⁵⁵ Baroney; ‘Baronet’ A. F. B Vasquez, Pike’s interpreter and guide. He, Pike and Robinson usually preceded the main body.

¹⁵⁶ This Comanche raid was the incident they had learned of September 21 [Point 22].

¹⁵⁷ Pike (1965 [1810]), v.2: 449.

¹⁵⁸ I first thought the walking Pawnee was a sign of low horse numbers. However, Pike noted that the Pawnee with their advantage of fire-arms “always march to war on foot,” even against mounted foes. Pike (1965 [1810]), v.2: 553. I suspect that Pike’s horses were in such bad shape as to evoke sympathy in the Pawnee.

¹⁵⁹ Pike (1965 [1810]), v.2: 450.

the confluence of *Fountain Creek* and the Arkansas.¹⁶⁰ This site is now in *Pueblo Co*, and the river is channeled so that historical descriptions are unrecoverable. Pike noted the Arkansas divided into many small branches. Ulibarri noted it was as broad as four Rio Grandes in July 1706 at this same spot. They killed five buffalo [62]. Pike was convinced it would be but a day's work to "ascend the north fork [Fountain Creek] to the high point of the blue mountain [Pikes Peak]." ¹⁶¹

November 24th they built a small breastwork on the river junction, northwest side [63].¹⁶² From here Pike, Robinson and two soldiers set out to climb the mountain. This became a desperate enterprise and Pike would not succeed in climbing the summit of the peak, but did scale to the top of *Mt Rosa*, 11,500' (105°W x 38°45'N), from which *Pikes Peak* appeared to be twice as high. Perhaps there was not a more desperately foolhardy but nonetheless admirable enterprise in the history of American exploration than Pike's attempts to conquer the blue mountain. Wearing clapped-out moccasins, tattered army overalls and an assortment of rags—they carried no winter gear—Pike and his three companions tackled the slopes of the 'blue mountain' during the first great storm of winter, making scientific observations as they fought ravens over deer carcasses and staggered through waist deep snow. Always taciturn, Pike's journal gives some clues to the nature of "the inclemency of the region" during their six-day trek.¹⁶³ They were paying now for all those days of negotiating, hunting, and resting on the trip out; as Pike wrote, "I had not calculated on being out in that inclement season of the year."¹⁶⁴

Pike found bison bulls and cows around the 'blue mountain' in valleys and on slopes almost to the tree line. They saw no herds, but stray animals. It was much colder on the peaks than in the valleys, and on December 2nd the temperature reached -17° Reaumur. Pike noted the peak was the "bounds of [Spanish] travels N. W.", and that Indians for hundreds of miles around on the plains used the mountain as a directional aid.¹⁶⁵ Pike descended *Turkey Creek* and on

¹⁶⁰ Pike (1965 [1810]), v.2: 451. Pike map 8. The map is a tad chaotic, and at first glance the Grand Forks comes from the south, but Pike shows the Arkansas bending south. Fountain Creek is the stream flowing to the west.

¹⁶¹ Pike (1965 [1810]), v.2: 451.

¹⁶² Pike map 9. [105°W x 38°45'N],

¹⁶³ The attack on the peak is well worth reading. There is also a very nice mural in the Pueblo Court House depicting Pike and company.

¹⁶⁴ Pike (1965 [1810]), v.2: 461.

¹⁶⁵ Pike (1965 [1810]), v.2: 461.

November 28, killed some buffalo, then descended into a “a valley [where] the land here very rich, and covered with old Tetau camps” [64].¹⁶⁶ On the 29th they marched all day to the breastwork. The highland between *Fountain Creek* and *Turkey Creek*, now a treeless prairie dog and rattlesnake enclave, was in Pike’s day “cedar cliffs.”¹⁶⁷ On November 30 it snowed heavily, but Pike’s “impatience to be moving” and they made 15 miles up the south side of the Arkansas [65].¹⁶⁸ Just below the river Pike and Robinson found

a Tetau encampment, which appeared to be about two years old; and from having cut down so large a quantity of trees to support their horses, we concluded there must have been at least 1,000 souls. Passed several more in the course of the day, also one Spanish camp. This day came to the first cedar and pine. Killed two deer.¹⁶⁹

This valley was an important site for the Comanche, as indicated by the harvested trees and many campsites. If so, where were they? Pike found none camped on the upper Arkansas. The Comanche and their herds were sensibly on the warmer southern plains where Melgares, Vial and many others encountered them.¹⁷⁰ Pike was too late to meet them. The Comanche used these valleys for their spring/summer hunts and grazing. Anza found them on *Fountain Creek* in August, a familiar pattern. Pike noted, as would Long a decade later, the wide swaths of ecological destruction visited on the area by the Comanche’s grazing practices. Even in summer there was not enough grazing for the great herds of Comanche animals—at least four horses per

¹⁶⁶ Pike (1965 [1810]), v.2: 459.

¹⁶⁷ Pike map 9.

¹⁶⁸ As Coues, short of Turkey Creek on south shore.

¹⁶⁹ Pike (1965 [1810]), v.2: 459. These are the first cedar and pine in the river valley. They had encountered both in the mountains.

¹⁷⁰ “It was not an accident that the Comanches built their empire on the southern plains below the Arkansas valley, for that river marked an ecological and institutional fault line, north of which climatic conditions turned increasingly unfavorable for animal herding and equestrian cultures.” I generally agree, but I do not believe that Hämäläinen understood the strength of Pawnee horse culture. Pike demonstrated this “fault line” existed, but it was equally a political one in 1806. Pekka Hämäläinen, *The Comanche Empire*. (New Haven: Yale University Press, 2008): 241.

capita¹⁷¹—on the upper Arkansas. There were only so many such places within Comanche control, and Comanche horses were literally eating their owners out of the environment.¹⁷²

December 1 a blizzard blew in a foot of snow, and their horses suffered horribly. On the 2nd the temperature dropped to “17° below zero” (Reaumer: -21C), but they found it necessary to swim the horses across the Arkansas to the north shore. One of their horses “took a freak in his head” and ran away.¹⁷³ They camped after 13 miles [66]. As the storm abated, they found scattered cow bison, deer, and many turkeys. Some of the men suffered severe frostbite. On December 6 they struck the point where the Arkansas flowed “into the mountain”, now *Royal Gorge* [67]. Just before here the Spanish road ran to the south up *Grape Creek*, and so into the valley of the Rio Grande. The Spanish had avoided the well-known steppe trail used by Anza and many others; this formerly friendly Apache territory was now Comanche hands.

From this point I leave off mapping Pike as he wandered around the headwaters of the Arkansas, which he would do until returning to Point 67 on January 5, 1807. The company suffered horribly throughout, but he made some interesting observations. Certainly he found the Platte River above *Pike’s Peak* as it ran to the northeast under thick ice. Also in what we now know as *South Park* he found the site of several old and large Indian camps, and some fresher winter campsites. December 14th about the Platte River, they found the site of a massive camp of tipis, recently evacuated. Pike estimated it would “have taken a thousand horses some months” to make that much sign.¹⁷⁴ More likely it was thousands of horses for some weeks. Surprisingly they found some bison bulls nearby. At another camp on the reaches of the Platte they found other campsites, at some of which they found corncobs.

This induced [them] to believe that those savages, although erratic, must remain long enough in one position to cultivate this grain, or obtain it of the Spaniards. From

¹⁷¹ This figure is Pekka Hämäläinen’s, based on a survey of primary sources, I believe all of them surveyed herein, and secondaries including Dan Flores and the ‘usual suspects.’ Hämäläinen (2008): 240. The Comanche likely wrangled some 200,000 animals on the southern plains. These camps indicate the effects of some several thousand of them being in one place over an extended period.

¹⁷² The Kiowa and Pawnee controlled the mountain valleys above the Arkansas, the Apache have been shown to control the lands below the Canadian, and that leaves only the hundred-odd miles in between. The Arkansas valley was a rare and vital component of the Comanche enterprise.

¹⁷³ Pike (1965 [1810]), v.2: 461.

¹⁷⁴ Pike (1965 [1810]), v.2: 467.

their sign they must have been extremely numerous and possessed vast numbers of horses.¹⁷⁵

These people were Ute and Comanche who traded/raided the Spanish horses and corn and also traded horses north through the intermountain [Polyline: Horse highway]. This camp site was likely on the same route that Anza took to punish the Comanche. This was a ‘natural’ highway from Santa Fe to the Platte plains. Heading south in search of the Red River, which shows how imbedded this idea of the wedded Red, Arkansas and Platte source was, they ran into the Arkansas again. Here too was the site of another massive camp that had been occupied by “at least 3,000 Indians, with a large cross in the middle.”¹⁷⁶

The rest of Pike’s testimony, fascinating as it is—Pike’s capture /rescue and Dr. Robinson’s spying activities make excellent reading—is necessarily distilled down to a few points of environmental significance. Not until January 28, 1807, did the company make their way again to the Arkansas thence south through passes to the small “sandy desert” in the upper Rio Grande valley. Pike followed “down the ravine”, perhaps *Mosca Creek/Pass*, where there was “a road cut out”, and discovered vistas of the San Juan Mountains across the valley and descended down “sandy hills”. Pike, like later generations of tourists, “ascended one of the largest hills of sand” and surveyed the valley with his glass, ‘discovering’ the Rio Grande. As to the desert, the

sand-hills extended up and down the foot of the White Mountains about 15 miles, and appeared to be about five miles in width. Their appearance was exactly of the sea in a storm, except as to color, not the least sign of vegetation existing thereon.¹⁷⁷

¹⁷⁵ Pike (1965 [1810]), v.2: 468.

¹⁷⁶ Both Pike and Coues were convinced that this camp was reported by James Pursley, an American adventurer, who reportedly camped hereabouts with a group of Comanche and Kiowa, “near 2,000 souls, with 10,000 beasts,” as they escaped Sioux on the plains. Pike (1965 [1810]), v.2: 468, 757. However these events, if they happened, happened in the spring of 1802. No evidence exists for Sioux presence on the Arkansas.

¹⁷⁷ Pike (1965 [1810]), v.2: 493.



Figure 9.16. Great Sand Dunes.

Here Pike was passing the only environmental desert, seen in his journeys, the pocket desert at *Great Sand Dunes National Monument*. Pike was impressed enough to scribble “Sand Hills” and twenty or so rudimentary dunes. This map is a very accurate rendition of the valley Anza marched through in August 1779, following the *San Luis Creek*. Pike marks this stream as having a stronger flow than at present; it now disappears into *San Luis Lake* (105° 43' W 37° 40' N).¹⁷⁸ Otherwise the extent of the dunes and their termination above *Medano Creek* mark their extent much the same as today.

¹⁷⁸ DeLorme. *Colorado*: 81, D5.

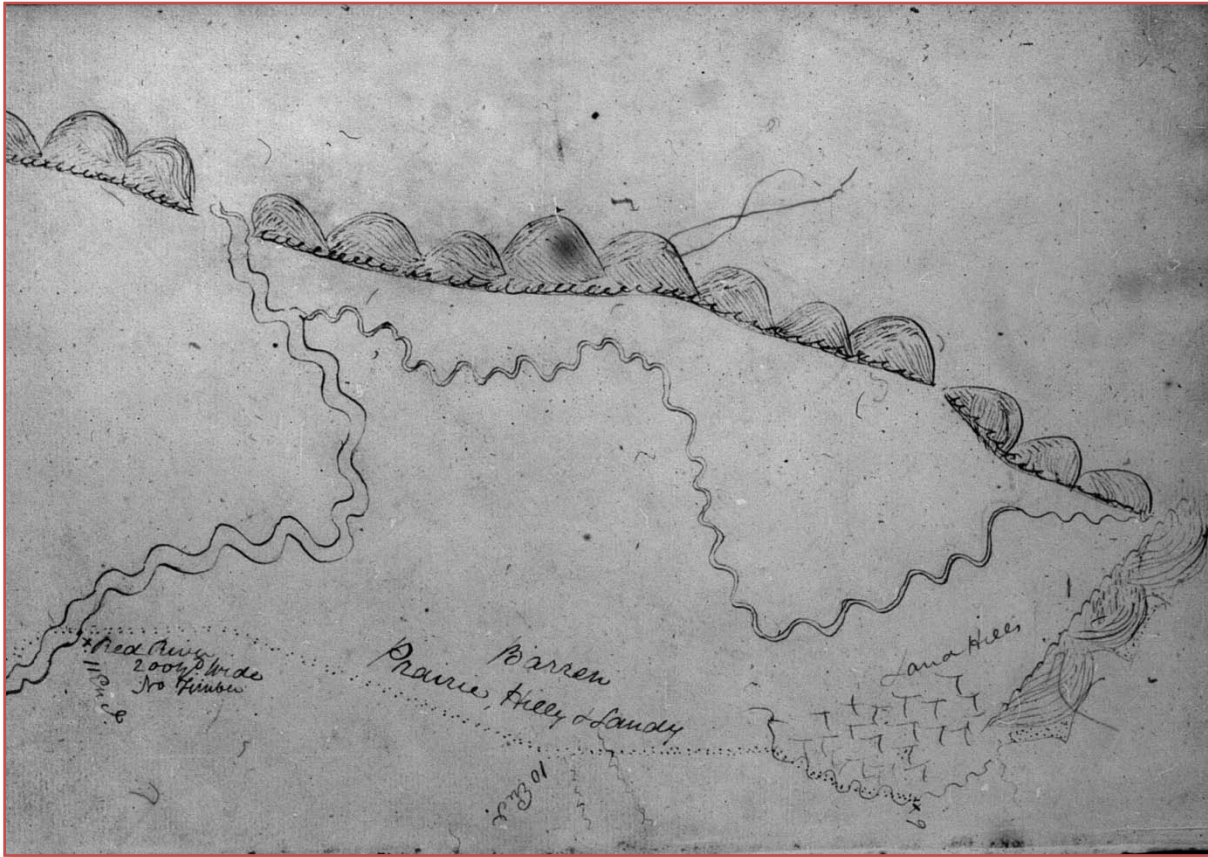


Figure 9.17. Pike Environmental Desert.

It is in the closing papers of the Pike documents that the purposes of his expedition are made clear. There is no doubt his focus was determining the extent of Spanish defenses of New Mexico. Pike's own address intended for Congress never mentions the word desert, and 95% of its content concerns New Mexico. As far as his trek across the plains from the Pawnee, Pike wrote that "[n]othing occurred worthy of note until...we met a party of Pawnees[.]"¹⁷⁹ No desert, no garden, just a determination of the river's course to the mountains and New Mexico.

Pike exemplifies the advent of American presence in the Study Area. Settlers had not yet penetrated more than a few miles inland from the Mississippi and Missouri above St. Louis, but they were there, as Osage raiding made clear. There was but one settler on the Arkansas above Arkansas Post, but there *was* one. More pressing was the establishment of two Choctaw towns on the Arkansas below the Quapaw. American trade and commerce were beginning to embrace

¹⁷⁹ Pike (1965 [1810]), v.2: "Sketch of an Expedition", 845-851.

the Study Area, but in 1806 they were still replacing French presence. American purchasing of furs and horses and selling firearms impacted the political status quo on the Plains, but there were as yet no reservations or territories imposed on the Study Area apart from the highly conjectural outlines of the Louisiana Purchase. There were no boundaries on the map yet, but boundaries were on the way.

Pike sheds some light on the mysterious Arkansas valley avoided by earlier argonauts and the Apache. They passed below what was El Cuartelejo without seeing any trace of Apache/Padouca presence. In just over a half-century the Comanche had driven the Apache from the foothills region above the Canadian River. Comanche imperialism required not just the defeat of rivals, but “reliable access to grass and water, which made it imperative for them to remove Apache gardens from the river valleys, the only spots on the grasslands where the crucial resources were available year-round.”¹⁸⁰ Extirpation, not subjugation or integration, was the Comanche goal. The Pawnee/Kans/Osage effectively blockaded the Apache from acquiring French firearms, lessening their ability to repel the Comanche. The Apache, as were all agricardo groups, were also subject to devastating epidemics that the more mobile Comanche were better able to withstand, or sometimes avoid.¹⁸¹

There was no habitation of the Arkansas by any group from the Great Bend to source. There were signs of transiting and hunting groups but they found so signs even of large hunting camps as they had east of the Arkansas. Rather the contending groups, Osage, Kansa, Pawnee, and Comanche lived well off this valley.¹⁸² The first three centered on their agricardos, the Comanche in southern Plains and intermountain camps. Even when Apaches had dominated the

¹⁸⁰ Pekka Hämäläinen. "The Rise and Fall of Plains Indian Horse Cultures," 833-62. *Journal of American History* (2003): 837.

¹⁸¹ Recalling the strategy proposed in the Vial chapter. In the perhaps the best observed destruction of an agricardo, that of the Mandan, the Plains groups, primarily the incoming Siouans harassed the Mandan, but the great smallpox epidemic destroyed them. There was no recovering from a 90% population loss in 1837-38. The destruction of the Osage and Pawnee agricardos was accomplished through a number of fronts including disease but also pressures from inter-group warfare, incoming immigrant Indian groups, and American settlement/military pressures. For the traditional declensionist histories of these groups see Hyde (1988[1951]) for the Pawnee; Rollings (1995) for the Osage. For the Mandan, Robertson (2001) is a profitable read, but I am unaware of a solid history of the Mandan. Like the Pawnee, the Mandan have been fetishised because of their elaborate culture. The Mandan also bear the burden of having been considered ‘blond Indians’ or lost Welsh.

¹⁸² Unseen by Pike were the “Kyaways”(Kiowa) who he reported to be on the headwaters of the Platte, above the Comanche, west of the Grand Pawnee.

plains above the Arkansas they avoided the valley. El Cuartelejo was sited just above and west of the favored cow bison range. Since the destruction of Quivara agricardo and then El Cuartelejo agricardo, the Arkansas corridor was now unoccupied by settled groups. Given the suggestion of Comanche hegemony—Pike offers no proof of this—it would seem that the roughly 400 mile-long (600km) corridor was a militarily imposed hunting preserve. This begs the question as to whether Plains groups, both settled and mobile, in concert destroyed the agricardos set up on top of the highly valued female bison range. The exponential increase in the number of aboriginal owned horses and firearms aided this process.

Pike gives an excellent read of the Study Area horse firearm nexus in 1806. This trade ran east-west, as the source for firearms prior to American presence on the plains, as Pike *et al* clearly demonstrate, was French traders who operated around St. Louis. The Spanish, New Mexicans, and Tejans were not a significant source of firearms other than as donors in raids. Groups that controlled French trade had the preponderance of firearms. The Kansa and Osage, who ‘owned’ both the Missouri-Mississippi junction and the Arkansas descent, were the best armed groups, having a ratio firearm to fighter of 1:1. Their wealth was based on brokering the fur trade, particularly beaver, otter, deer, and bear. However the Osage could put 1250 fighters in the field to the Kansa’s 450.¹⁸³ Conversely these groups, furthest from Tejas and New Mexico were horse poor, having “700-800” animals, less than a horse per man or 1:1.5. Since they were highly unlikely to trade firearms to their enemy neighbors, the Osage raided horses to survive rather than for adventure or wealth accumulation.

Conversely the Comanche sat on two rich sources of horses, the southern Tejas plains, and the settlements and ranches of Tejas, Mexico and New Mexico. The Comanche possessed tens of thousands of mules and horses, and with 2,700 fighters, had a horse to fighter ratio of at least 10:1. Horses were the primary source of wealth for the Comanche, but they could not trade horses for firearms with the Pawnee or Osage, or the Spanish. This left them the Taovaya and Caddoan groups as intermediaries with the French and Americans traders.¹⁸⁴ The Comanche were horse-rich and firearm-poor, having a fighter to gun ratio of 1:10. Since they traded horses

¹⁸³ All figures from Pike’s “Statistical Abstract,” (1965 [1810]), v.2: 590-591.

¹⁸⁴ For the American trade see Dan L. Flores, ed. *Journal of an Indian Trade: Anthony Glass and the Texas Trading Frontier, 1790-1810*. College Station: Texas A&M University Press, 1985. And, "Bison Ecology and Bison Diplomacy: The Southern Plains from 1800 to 1850." *Journal of American History* (1991): 465-85.

to their client groups, Taovaya, Caddo, who also bordered their Osage enemies, it was the client groups who faced the brunt of Osage raiding.

The Pawnee were in the middle in terms of both ratios. Had they been in the middle geographically they would have been destroyed as were the Apache and Jumanos before them. Able to trade through Arikara family ties with French then British traders at the Mandan agriardo and controlling the fur trade on the Platte, the Pawnee acquired some 700 firearms for nearly 2,000 fighters, a ration of 1:3. However the Pawnee also sat on the natural trade route north for horses, and prospered accordingly. The Pawnee uniquely bred and raised horses, lessening their dependence upon raiding. The Republican Pawnee had a ratio of 5:1, horses to fighters. Since the Pawnee were an internally fractious lot, the Republican Pawnee were at war with the Grand Pawnee in 1806. They had a less unified front than did the Osage or even Comanche. Still they were a powerful force underpinned by trade and agriculture.

Neither Pike nor Wilkinson made any report of fire in 1806-07. If one's perception is that Plains Indians consciously fired the plains, there is scant to no evidence of that in the argonaut records. Cabeza de Vaca was the only one to report aboriginal environmental firing, and that was not on the Great Plains but the rather the Coastal Plains. The Osage fired the tallgrass and parklands, but Pike passed through the tallgrass at the wrong time to have observed a spring burn. Further, Pike travelled during a summer in which storm followed storm and burning was impossible. Likely the Osage and possibly the Pawnee undertook burns for their agricultural fields. However, given their large horse herds in conjunction with the annual flooding of their permanent garden sites, perhaps the Republican Pawnee never resorted to firing. Stephen Pyne noted that "A land that is overgrazed will be underburned."¹⁸⁵ Later visitors reported wide swathes of "bad fare [for horses] in the vicinity of the Pawnee towns," indicating overgrazing.¹⁸⁶ The only argonaut observation of burning on the shortgrass plains and steppe was defensive as reported by De Sosa, December 1590 near the Taino pueblo. In the absence of any proof to the contrary, it seems that Plains Indians did not fire the Shortgrass plains and steppe before the age of euramerican encroachment and settlement. Sporadic but regular natural fire combined with the great biomass of grazing animals, particularly bison, made aboriginal firing of the Study Area unnecessary in early historical times.

¹⁸⁵ Stephen J. Pyne. *Fire: A Brief History*. (Seattle: University of Washington Press, 2001): 78.

¹⁸⁶ Major Clifton Wharton, September 1844. Quoted in White (1988 [1983]): 182.

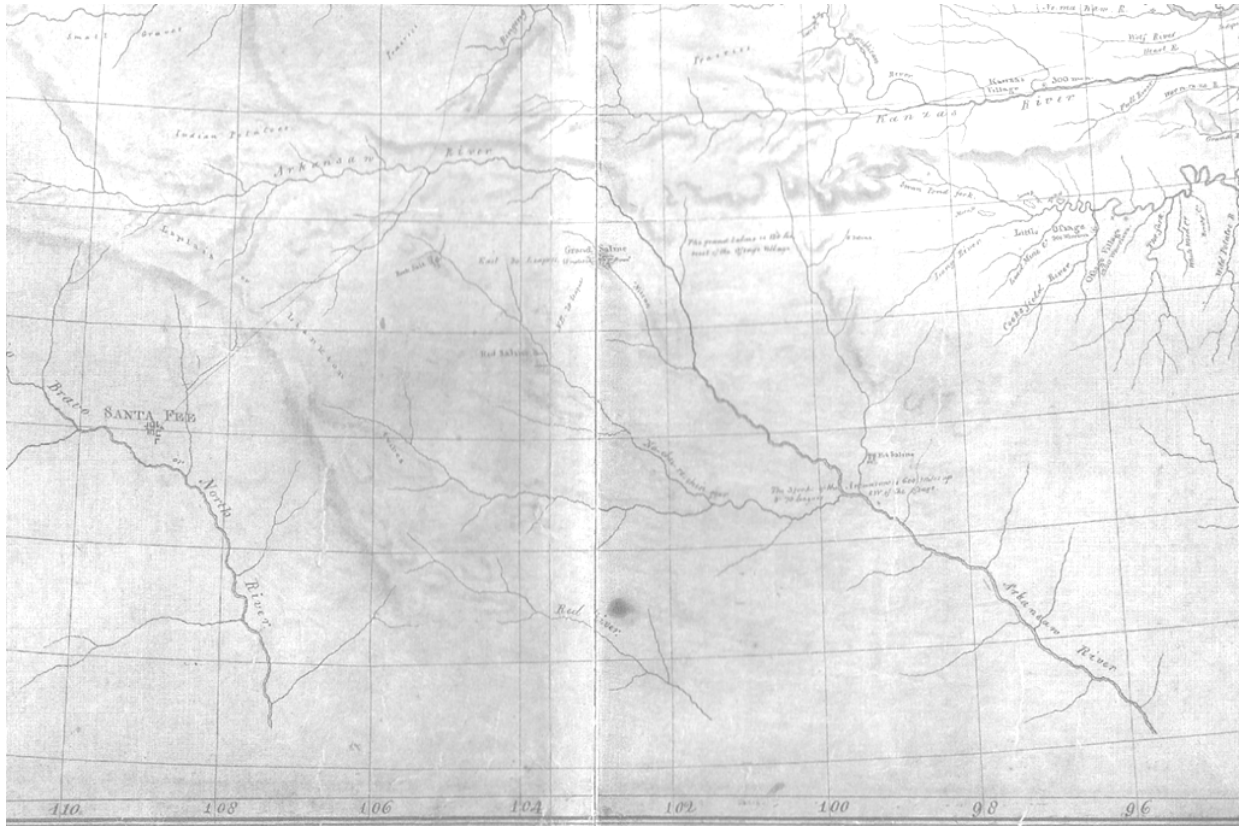


Figure 9.18. King Map 1806, Crop. Nicholas King from Meriwether Lewis. "A Map of part of the Continent of North America, Between the 35th and 51st degrees of North Latitude and extending from 89 Degrees of West Longitude to the Pacific Ocean: Compiled from the Authorities of the best informed travellers by M. Lewis." Philadelphia, 1805. Courtesy of the Map Division, Library of Congress.

A map published in concert with the President's Message shows Jefferson's argonauts had so far solved none of the big questions of Plains Geography. This King map shows the Missouri River heading 200 miles from the Pacific Coast, the Arkansas flowing southeast rather than east with Sibley's fictitious salt mountain located below the Great Bend. The Great Bend is shown at 103° rather than at 98° longitude; the difference being a 'missing' 200 miles of plains. For the first time on a map the Red River heads in approximately the right spot *vis a vis* Santa Fe, but the stream heads SSE rather than east and rises in mountains rather than on the Llano, again attributable to Sibley's stories. No American had seen the head of the Red River. Critically for the present study, there was no room for a Great American Desert on the map, covered as it was in rivers, highlands, and mountains.

Contemporary argonauts such as Pike did not have access to this map. But the Long Expedition of 1820 did. It is easier to comprehend the Long route when considering the map above, and realizing that between 1806 and 1820 American knowledge of the Study Area did not advance beyond this point.

Bison cows and calves had very specific ranges upon the short grass plains and steppes. Bulls were found in scattered groups east of 100°, in herds west of that imaginary line. Cows were found there en masse, perhaps moving south, and in smaller numbers into the mountains on the Arkansas. Pike had found much bison sign on the Smoky Hill above Great Bend, indicating that the great herds had grazed on the short grass there in the summer of 1806, a proven Kansa bison-hunting ground. Wilkinson found large herds of bulls below the Great Bend. Pike offers conclusive evidence about the strong correlation between bison cows and the short grass plains and steppe suggested by earlier argonaut accounts. In the decades preceding euramerican settlement of the TransMississippi West, very few bison were found on the tallgrass prairie and these were almost exclusively bulls.

One thing these cow sightings and sign had in common was that they were made at least a hundred miles from any agricardo or permanent Indian town. Interestingly, the ex agricardos El Cuartelejo and Quivira were also situated at least a hundred miles from the 1806 cow bison sites. El Cuartelejo, Quivara, and Republican Pawnee were all agricardo sites positioned on top of proven bison grounds. This may have been a factor in the demise of both Quivara and El Cuartelejo. El Cuartelejo was erased by the incoming Comanche as Quivara had been by incoming Osage and Kansa. The sources show already massive contraction in bison range by 1806, as American and Indian emigrants pressed across the Mississippi. The core region for bison was the short grass.

Bison cows had in earlier times relied upon the riparian mountain passes such as the Arkansas, Platte, Pecos, et cetera. Pike and earlier sources evidence that these regions were under environmental attack by horse Indian groups. Pike found much evidence of seasonal Comanche camps and environmental destruction caused by grazing massive herds on the Arkansas, in *South Park*, and in the mountain Platte valley. Both the destruction of grazing and aboriginal presence would have kept bison away from vital winter grazing and shelter, as Plains agricardos kept bison away from valuable grounds on the Red River and Platte. This means that the Canadian and central Arkansas River valleys were the last major courses not occupied by

settled aboriginal groups in the Study Area. By 1806 the environmental pressures on bison, apart from hunting, were both intense and intensifying. Also, sources from Bourgmont forward make clear that hunting pressures on bison for robes and hides increased as these items entered the global market. Pike noted that all the groups he contacted traded bison products, and of course, used them prolifically as well.

CHAPTER 10.

Long On the Ground, 1820.

In 1810 when Anthony Glass returned with his caught horses to Natchitoches, there was but one political boundary on American maps of the Trans Mississippi West that had some basis in reality and that was the contested and imprecise Neutral Ground. In 1820 when Major Stephen Long began his scientific examination of the western plains the region was littered with conflicting boundaries and borders, at least some of which were both *de jure* and *de facto*. The decade 1810-1820 was as active a time in world affairs as any. The United States defeated Britain in the War 1812, and in terms of the Study Area, the euramerican contenders were now down to two: Spain and the United States. France and Britain no longer pressed and apart from the actions of individuals were no longer factors.¹ This new reality had a deleterious effect on many aboriginal groups that had formerly played off multiple contesting euramerican traders. The Long Expedition revealed this new balance of power.

At the end of the decade-long (1810-1820) Mexican Revolution, Spain was replaced by the Mexican state. During that decade however, Spain for the first time unified its various compartments, New Mexico, Tejas, and remnant Louisiana, into one entity (Fig. 10.1). Still, the Americans behind Andrew Jackson forced Spain into the 1819 Adams-Onís Treaty whereby Spain ceded Florida and part of Louisiana, and established a new western boundary at the Sabine River. The new Spanish entity, Viceroyalty of New Spain acquired (briefly!) the plains portion of what would be *Texas*, *New Mexico*, and *Colorado*. The Americans gained Florida, and the Gulf lands through to present Louisiana boundaries. These actions meant that, unlike Pike, the Long Expedition encountered no Spanish presence on the Great Plains.

¹ American treaties with Indians groups stressed that no group was allowed to trade with English/Canadian agents, but for all practical purposes there was no other Euramerican national presence in the Study Area by 1820.

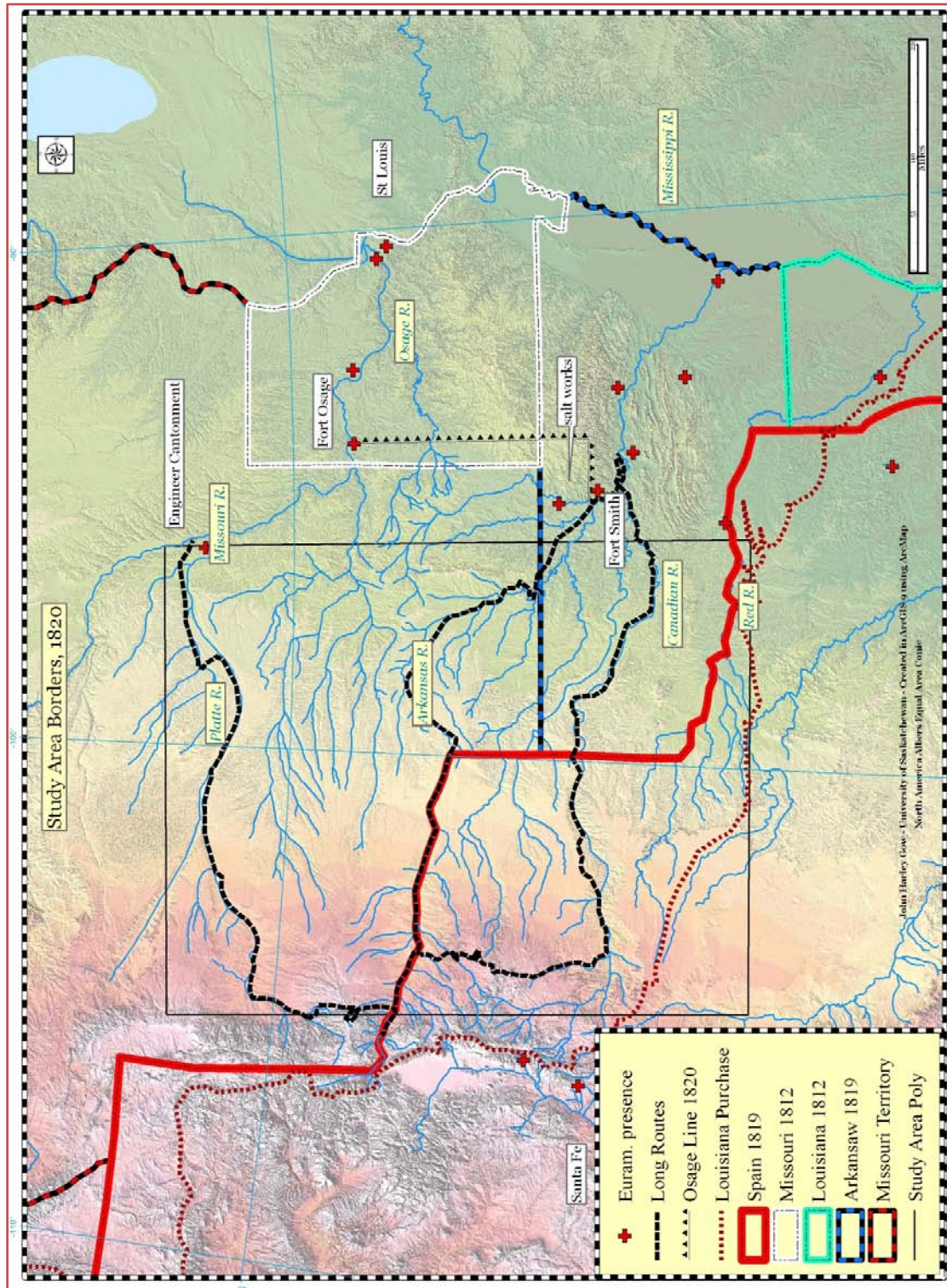


Figure 10.1. Study Area Boundaries, 1820.

In 1820 slavery, an ancient staple of aboriginal Great Plains political economies, entered the Study Area in the geopolitical sense. Secondly to lingering Spanish power, slavery both explains and accounts for the boundaries on the 1820 political map of the Study Area. The expansion of slavery and not the pursuit of mustangs drove early TransMississippi expansion. In 1820 there were but two states west of the Mississippi, the first being Louisiana (1812). Missouri organized a state government, but would not be admitted into the union until the Missouri Compromise of January 1820 admitted Maine as a slavery-free state and Missouri as a slave state. An important imaginary line was set at 36°30' North, above which slavery, but for Missouri State, was prohibited.² Missouri Territory consisted more or less of the lands of the Louisiana Purchase and those wrested from England in the north to 1820. Oregon Territory in the new Northwest would remain under joint US/English claim until 1846.

Zebulon Pike took influenza to the Osage and may have sparked armed resistance towards incoming Americans, but likely influenza was not necessary to spark Osage fears and violence. Partially in response to an 1808 violent outbreak against settlers, now brigadier-general and Superintendent of Indian Affairs William Clark established a military fort and trading post on the Missouri to quell Osage violence, and head off Canadian traders. Fort Clark/Fort Osage planted American presence into what had been in Bourgmont's time the heart of Osage lands, now their northern frontier (Fig. 10.1). Missouri Territory Governor Meriwether Lewis made some changes in a proposed treaty in response to Osage demands and sent out Pierre Choteau to the Grand Osage for ratification by the three Osage groups.³ The result, accepted by the Osage but not ratified by the US until 1810, was Treaty 45. The Osage ceded the lands east and south of the Osage Line, and promised to do business with no one but Americans.⁴ An unplanned side benefit for US expansionists was that this line drove a wedge between the Osage and their cousins the Quapaw as the US would settle immigrant Cherokee about the southern limits of the treaty above the Quapaw.

² Missouri State had not yet acquired its modern boundary.

³ Francis Paul Prucha. *American Indian Treaties: The History of a Political Anomaly*. (Berkeley: University of California Press, 1994): 127. Treaty 45[56, new era], proclaimed 1810. I believe this was the first TransMississippi treaty. The Sac and Fox signed at St. Louis in 1805, but their home territories were east of the Mississippi.

⁴ William Clark had offered Sioux, Pawnee, and Osage chiefs \$1 and fighting men \$.60 per diem to attack British traders and pro-British Indian groups to "take pressure off the frontier." William T. Hagan. *American Indians*. 3rd ed. (Chicago: University of Chicago Press, 1993): 70.

With Thomas Jefferson out of office and the War of 1812 history, Major Stephen Long was the “chief promoter of exploration...and without his persistent efforts” Jeffersonian-style scientific exploration would not have resumed for decades.⁵ W. Eugene Hollon termed Long “the most neglected of the early western explorers[.]”⁶ although of the American argonauts Zebulon Pike receives even less attention. In 1816-17 Long undertook a massive trip exploring the Mississippi as far as the St Peters River—already mapped capably by Pike—which established that the Mississippi was not only well-known by then but was in fact dotted with American forts.⁷ On this trip Long visited the Hot Springs ‘discovered’ by Dunbar. An 1823 expedition would continue beyond the Mississippi to Fort Alexander⁸ in *Manitoba* before tracking the Great Lakes to Rochester NY. This was to correct the “extreme dearth of knowledge” of this region. Long initially proposed using a *steamboat* to accomplish this mission, but President Monroe “failed to answer” Long’s proposal.⁹ These were hardly cutting-edge efforts, one of the reasons some Long writers assume a defensive stance.¹⁰ Writers such as William Goetzmann thought the scientific output was “negligible”, but for the production of “Long’s important map.”¹¹ To further complicate Long’s legacy the Scientific Expedition of 1819-1820 was a monstrous failure at achieving its original goal to map the Yellowstone River. In this respect, Long replicated the Jeffersonian argonauts. Long’s reputation also stemmed from the fact that his expedition was but one of four sent out by various US bodies that year alone. All of the others achieved their less ambitious goals.¹²

⁵ Roger L Nichols, and Patrick L. Haley. *Stephen Long and American Frontier Exploration*. (Norman: University of Oklahoma Press, 1995): 17.

⁶ W. Eugene Hollon. *The Great American Desert; Then and Now*. New York: Oxford University Press, 1966.

⁷ Still, it would not be until 1832 that Schoolcraft and Allen made their *Expeditions to the Source of the Mississippi*.

⁸ Originally a La Vérendrye post, Fort Alexander was re-built by North West Company’s Alexander Mackay about 1807.

⁹ Long was an early steam engine adopter and would receive many patents for steam locomotives. In 1837 he surveyed the route for the Georgia Western & Atlantic Railroad.

¹⁰ “In some ways, Long’s specific contribution seem modest, but that is incorrect.” Nichols (1995): 17.

¹¹ William H. Goetzmann. *Exploration and Empire: The Explorer and the Scientist in the Winning of the American West*. (New York: Alfred A. Knopf, 1966): 62.

¹² Stephen Kearney to Council Bluffs; Lewis Cass to southern lakes Michigan and Superior; Jedediah Morse to the new Northwest. Nichols (1995): 116.

In common with the Jeffersonian argonauts, Long began as a paramilitary marine, or rather riparian, expedition. Unlike Pike this was ostensibly a scientific expedition.¹³ It could and has been argued that the original purpose of the Yellowstone Expedition was militaristic in that it would push the claim of the United States against England in Oregon Territory. Why else would “one thousand men under General Henry W. Atkinson” have accompanied the half-dozen scientists and painters? Whatever the actual purpose of the Yellowstone Expedition, their six steamboats were ill suited for the Missouri and they stopped for the winter near *Council Bluffs* and built a camp called Engineer Cantonment. Here they were struck by cholera and scurvy and their original plans were scrapped. As James Ronda wrote, “[b]usy counting its dead, the ...Expedition would count no more miles up the muddy river.”¹⁴ Instead of showing the flag on the upper Missouri the scientific component and engagees to a total of 22 men set out June 6th 1820 to figure the Platte River plains “westwardly to the Rocky mountains, thence Southwardly to the Arkansaw river. Thence down said river to Belle Pointe and thence to Cape Girardeau on the Mississippi[.]”¹⁵ They felt lucky to be escaping the squalor and disease of the Cantonment, and separating themselves and their reputations from the massive boondoggle that was the 1819 Yellowstone Expedition.

They also set out feeling insecurity about their lives back home as they would be away from news for several months. One of the reasons for the cancellation of the initial exercise was funding issues. Washington was broke and trying to recover from the Panic of 1819, “America’s first great economic crisis.”¹⁶ Fuelled by the runaway expansion of paper money¹⁷ and “federal government facilitated large-scale speculation in public lands [caused] by opening up for sale large tracts in the Old Southwest and Northwest, and granting liberal credit terms to purchasers,” the number of banks rose 50% in 1818, and both real estate values and the brand new stock

¹³ Goetzmann (1966): 58.

¹⁴ James P. Ronda. “Exploring the West in the Age of Jefferson,” 9-74. Logan, John Allan, ed. *A Continent Comprehended*. 3 vols. Vol. 3, North American Exploration. (Lincoln: University of Nebraska, 1997): 65. One week in March, Surgeon Thomas Gale recorded seven burials and 360 of 1,000 soldiers on sick report.

¹⁵ S.H. Long. “Order to Capt. J.R. Bell.” Captain John R. Bell, *The Journal of the Stephen H. Long Expedition to the Rocky Mountains, 1820*. Edited by Harlin M. Fuller, and LeRoy R. Hafen. (Glendale, CA: Arthur H. Clark Company, 1957[1821]): 100.

¹⁶ Rothbard, Murray N. *The Panic of 1819: Reactions and Policies*. (New York: Columbia University Press, 1962): ii.

¹⁷ The states all issued their own paper monies at this time.

market soared, then fell through the floor.¹⁸ Expedition journalist Edwin James in particular revealed in letters to his brother that he was “at a loose end, frustrated, indebted and disappointed with his lack of progress in the world” prior to the expedition.¹⁹ The last thing the US needed was another quarter of a million square miles added to the land bank, much less a potential scrap with Spain over it.

The group was led by Long as “Topographical Engineer and Commanding officer,” with Captain of Artillery John Bell as journalist and second in command.²⁰ Lieutenant of Artillery William Swift was the Assistant Topographer. The group famously had two artists, painter Titian Peale and landscape artist Samuel Seymour. Additionally Thomas Say the zoologist/naturalist, and “Botan[ist] Geologist and Surgeon” Journalist Edwin James rounded out the expedition’s thinking component. Interestingly these two received the best daily pay, \$2.20. The two painters received \$1.70, while the military men, Long, Bell, and Swift were all paid \$1.50 per diem. The three interpreter/guide/hunters, Bijou, Ledoux, and Dougherty were each paid a dollar a day while the remaining rabblement, 7 enlisted and 5 private sector, were paid 15 to 25 cents per diem—less than half of what Meriwether Lewis had paid Osage warriors in 1810.

Long deviated from his original plan in July on the Arkansas River. Rather than descend that river en masse he split his already slim expedition in two with himself, journalist James, painter Peale, and seven worthies setting off into “Spanish Territory, according to the Adams-Onís Treaty,” to search for the head of the Red River.²¹ The other group consisted of Captain-journalist Bell, painter Seymour, naturalist Say, and topographer Swift, with the remaining men. The Long Expedition(s) were ment to give first-hand accounts of the Platte and the Red, as well as the Arkansas a decade after Pike/Wilkinson.

Up to Engineer Cantonment there are several sources available. James’ editor Reuben Gold Thwaites insistence that “James’s account is the only narrative of the expedition” is true

¹⁸ Rothbard (1962): 8-10.

¹⁹ Short (2009): 71. Safely ensconced at trail’s end before compiling the published journal, James wrote that he was “full of complaining and bitterness against major Long. I have been allowed neither time to examine and collect or means to transport plants and minerals. We have been hurried through the country (72).

²⁰ Long. “Muster Roll.” Bell (1957[1821]): 104.

²¹ George J. Goodman, and Cheryl A. Lawson. *Retracing Major Stephen H. Long’s 1820 Expedition: The Itinerary and Botany*. (Norman: University of Oklahoma Press, 1995): 67.

only to a point or rather *from* a point.²² James account tracks the entire journey but for the Arkansas descent. However, Capt. Bell's journal tracks the journey but for the Canadian descent. Until the party split in two then, there exist two journals plus Say's book, written post facto. The tragedy of this enterprise was that deserters carried off much of the recorded history of the Arkansas portion of the expedition. This included all the meteorological records and several other records. Unfortunately, Dr Say and Swift both lost their collected impressions to the deserters. In combination the expedition journals are much more than a simple chronicle, forming "a complex form of representation"²³ that reveals as much about the psychology of the participants and their times as the textual desert they created. The Thwaites edition of James' journal,²⁴ cited hereafter as 'James', was the principal source used.

This chapter is both a summation of, and a test of the arguments and lines of inquiry and textual issues introduced in previous chapters. Long was a grand expedition in terms of textual output, although certainly not in terms of manpower or equipage. While the routes were all mapped to GIS in the researching, what is presented here is a brief synthesis of the relevant data along with images from the Expedition's artists, and analytical maps. The Long Expedition called the TransMississippi West the Great American Desert. How did they arrive at that conclusion?

²² Thwaites, Reuben Gold, ed. *Early Western Travels, 1748-1846: Part I of James's Account of S.H. Long's Expedition, 1819-1820*. V.14 (Cleveland: The Arthur H. Clark Company, 1905): 18.

²³ John Rennie Short. *Cartographic Encounters: Indigenous Peoples and the Exploration of the New World*. (London: Reaktion Books, 2009): 12.

²⁴ Edwin James, ed. *James's Account of S. H. Long's Expedition, 1819-1820*. Edited by Reuben Gold Thwaites. Vol. 3. Cleveland: The Arthur H. Clark Company, 1905.

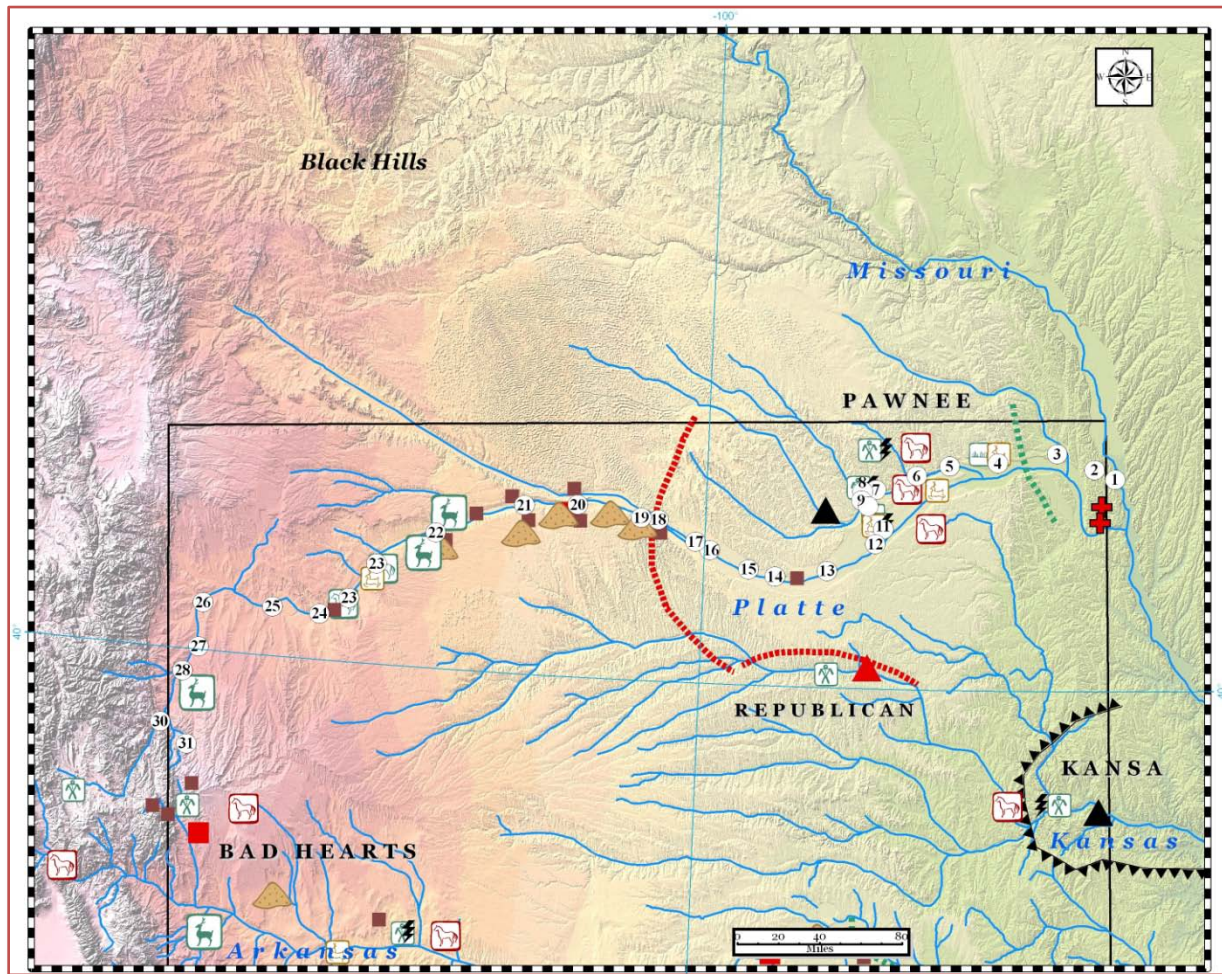
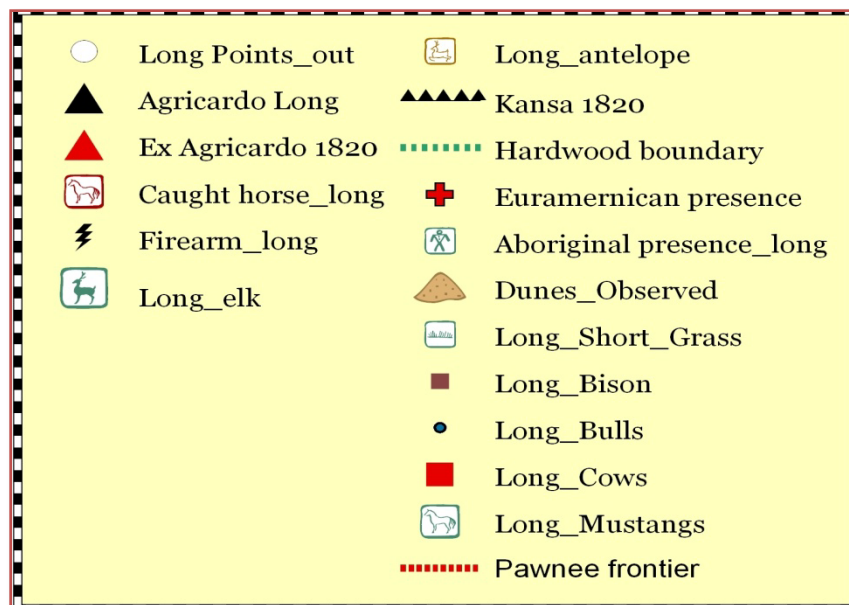


Figure 10.2. Long on the Platte.



In the autumn of 1819 on the way to Fort Lisa, elements of the Yellowstone Expedition similar in number to the eventual Long Expedition, including James and Say, stopped in at the Kansa town. Their impressions are briefly noted here. The Kansa were now reduced to one town now of “120 lodges”²⁵, population perhaps 1,000. This signifies a loss in population of perhaps 50% in a decade. The Kansa grew corn, pumpkins, muskmelons, and beans. Based on this scanty reportage the Kansa maintained a Type B agriculture to 1820. James offers some insight into how agricultural Indian groups prepared corn in making:

leyed (lye slaked) *corn* ; this is maize of the preceding season *shelled* from the cob, and first boiled for a short time in a ley of wood ashes until the hard skin...is separated...the whole is then poured into a basket, which is repeatedly dipped into clean water until the ley and skins are removed ; the remainder is then boiled in water until so soft as to be edible[.]²⁶

Pueblo peoples would have then ground the corn to flour. This process is called nixtamalization and is a sophisticated chemical process that increases nutritional value, reduces mycotoxins, and most importantly, adds niacin to the product. Groups dependent on non slaked corn are prone to malnourishment and diseases such as pellagra.²⁷ James was the first argonaut to report this process, a testament to the scientific approach of the Long Expedition. This sterling advice appears to have been ignored by the military and medical establishments of the day. Overreliance upon corn caused severe nutritional deficiencies in Southern populations both slave and ‘free’, and in 1909 corn was “put on trial for murder” in South Carolina.²⁸

On their return to the Missouri they were accosted by a raiding party of what would prove to be Republican Pawnee. Their mounted and firearm-carrying Osage escort scattered for cover when they saw “one hundred and forty [Pawnee] chiefly armed with the bow and arrow and lance...together with a few guns.” The Pawnee were afoot and seized the Americans’ horses. They professed to be at war with the Kansa. Through the resistance of the Americans and the return of the reinforced Kansa, all a-horse and carrying guns, the Pawnee dispersed.²⁹ While the Americans did not say so, they had been at the mercy of the much larger Pawnee group until

²⁵ James (1966 [1823]): V.1, 120.

²⁶ James (1966 [1823]): V.1, 122.

²⁷ Reay Tannahill, *Food in History*. Rev ed. (New York: Crown Publishers, 1988 [1977]): 205.

²⁸ Kiple, *A Movable Feast* (2007): 240.

²⁹ James (1966 [1823]): V.1, 135.

their rescue by the Kansa. That the Pawnee were on foot is no surprise³⁰ as this was their preferred mode of fighting. That they had but few firearms suggests they had suffered setbacks in trade and status since Pike's visit.

These were the only comments about the Kansa in James' journals, and Bell had no reason to mention the Kansa. This means the feared Kansa who had in Bourgmont and Vial's times controlled the region from the Missouri to the lower bend Arkansas were now pressed back onto a much reduced territory on the lower Kansas River. Likely they still hunted out to the Solomon River, but Long also reported Otos in control of the lands above the Kansas to the Platte River. The Kansa could still put 150 or more fighters on horseback with firearms, and their town was described with relatively glowing language, but there is no question their presence was much reduced.³¹ Still that the Americans were sent to negotiate with the Kansa and keep them from the British fold meant they were still a force, and that there was still a Kansa agriardo in 1820. After this excursion James, Say, and the rest rejoined the Yellowstone groups at Engineer Cantonment.

June 6 1820 the combined group set out for their first objective, the Pawnee Villages where they would collect "two Frenchmen, to serve as guides and interpreters", Bijou and Ledoux.³² Their equipage is of some interest. Each man had "a riding horse or mule—a rifle or musket—and in addition, the officers & scientific gentlemen with each a pair of pistols[.]" Their remuda would prove to be woefully inadequate within days of setting out, and their powder failed after weeks of rain. They also had six "horses & mules" to pack 750 pounds of hardtack, cornmeal and salt pork, five gallons of whiskey and "Indian goods & ammunition."³³ Their foodstuffs lasted them but a few weeks, and their "Indian goods" proved woefully inadequate. Their negotiations for horses and foodstuffs with Indian groups proved near impossible because of the quality and quantity of their trade goods. The scientists were outfitted with

³⁰ Recall Pike's encounter with the returning Pawnee on the upper Arkansas in 1806.

³¹ William Unrau depicts the Kansa in control of lands down the Osage and Neosho Rivers, but Pike et al make clear this was not so. William E. Unrau. *The Kansa Indians: A History of the Wind People, 1673-1873*. (Norman: University of Oklahoma Press, 1971): 97ff. Map at 98.

³² James (1966 [1823]): V.1, 425.

³³ Bell (1957[1821]): 104. James gives a much more detailed list of supplies and their pitiful amount of Indian presents. James (1966 [1823]): V.1, 426.

instruments etc...one sextant 5 inch radius – artificial horizon – a pocket sextant – three pocket compasses – two pocket thermometers, a measuring tape & Pikes map of the upper part of the Platte, Arkansaw and Red rivers[.]³⁴

The sextants allowed them to sight from the sun to determine latitude, rather than guessing from compass headings as had previous argonauts. They had no chronometer which was then just coming into play in the British navy. Theoretically, they could have figured longitude using the sextant. It would be expected then that their charting would be much improved, and their reckoning of latitude to be more precise. Since they were going to be following rivers it would be difficult for them to have gotten lost, but for the fact they relied upon Pike's charts. They did indeed get lost, or at least, descend the 'wrong' river.

Some relevant observations from their transit to this point will be examined in the text below as those issues arise. The resulting Long map is difficult to reconcile with the 'real' world on the GIS desktop in that the route of the Platte is near perfect after Grand Island, hopelessly inept before. Warping the map reveals a structural problem of their knowledge. Simply, they set out across the plains from Engineer Cantonment and started mapping from there, making a presumptive flat course for the Platte. In reality the Platte makes a great north to south sweep before joining the Missouri. By using control points at two sites they actually observed, the junctions of the Elk Horn and South Platte, ArcMap reveals that their mapping skills of observed locations was quite good. I used this process to map the Long points and route in this paper. The initial impression of Long as an incompetent mapper was soon dismissed. Almost diametrically opposed to Pike, the Long Expedition's perceptions of east west longitudinal bearings was solid, but their estimation of north-south latitudinal bearings and distance provides challenges.

³⁴ Bell (1957[1821]): 104.

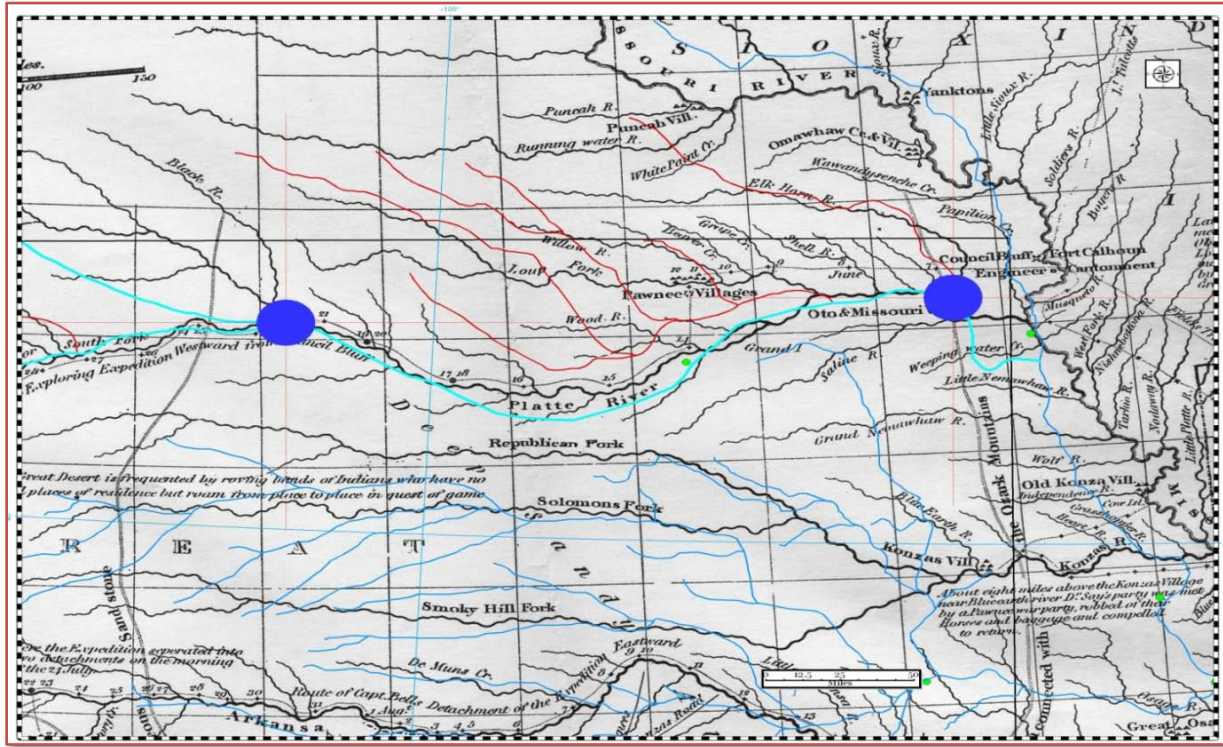


Figure 10.3. Georectifying Long: Platte River. The highlighted course is the Platte River. The control points were set at the junctions of the Platte and the South Platte (left) and Elk horn Rivers.³⁵

Travelling towards the Pawnee towns the “undulating...prairie” was novel for Bell; James saw “arid plains” [3-4]. They saw their first pronghorn just above the Platte beyond the Elk Horn River, a marker of the short grass plains. They identified most streams by French names, many of which persist. June 8 they camped on the Coquille (now, Shell) [4]. Their mileages were remarkably precise, and a note by James reveals it was not the measuring tape responsible, but rather Bell’s horse “whose gait was regular and uniform, and well calculated for the estimation of distances” who led the way.³⁶ The weather was rainy and on the 8th they rode through “the most vivid lightening & heavy thunder” Bell had experienced. On the 9th they camped on the Loup River in “extensive prairie bottom.” There were but a few “old cotton wood

³⁵ The map crop is from S.H Long. “Map of the Country drained by the Mississippi.” In, Edwin James. *Account of an Expedition from Pittsburgh to the Rocky Mountains.* Philadelphia: Carey & Lea, 1822. Viewable online at David Rumsey Historical Map Collection, Online. www.davidrumsey.com.

³⁶ James (1966 [1823]): V.1, 431.

trees” standing.³⁷ As they approached the Pawnee towns, trees became increasingly rarer, due to heavy usage by Pawnee horses and camp fires [5].³⁸

On June 10 they were overtaken by three French traders who had a letter for Long and a box of smallpox “vaccine virus” which had been unfortunately ruined in a keel-boat sinking on the Missouri.³⁹ While they escaped from cholera and scurvy,⁴⁰ and certainly suffered ailments on their journey, there is no evidence they carried any infections with them. Their illness in the mountains is attributable to altitude and all other iterations of ill-health seem to have been caused by accidents or harsh conditions, not pathogens. Since the Pawnee had visited Engineer Cantonment it seems unlikely they were untouched by the disease, but there is no evidence of illness or population loss at the towns. In fact, James later contrasted the ill health of southern Indians with the relative health of the northern groups.

Sunday June 11 they entered the “Village of the Grand Pawnee” [7], after having crossed *Cedar River* and passing through fields and “a party of squaws, going out to their daily labor of cultivating their corn, beans and pumpkins[.]”⁴¹ James noted that they stored “corn, dry pumpkins, beans, &c” for use in the winter when they left the towns.⁴² The Pawnee women had a guard with them as the fields were a “few miles” from the village. Long counted “160 lodges” at the Grand Pawnee, each house 30 or 40 feet in diameter, made of posts and sticks thatched with willow branches and grass plastered with mud.⁴³ Bell “reckon[ed] twenty five souls to each lodge”, or about 4,000 population.

The Pawnee were now horse rich, and there were “many individuals who own from 20 to 60 horses.” Horses indicated a Pawnee man’s wealth but not “his standing in society.” James

³⁷ Bell (1957[1821]): 109.

³⁸ The Pawnee sometimes floated timber down the Platte for construction. This observation makes one nervous about the veracity of Plains dendrochronological studies.

³⁹ James (1966 [1823]): V.1, 434. The Continental Army became interested in such issues as Indian health after the reorganization in 1816. That they were shipping vaccine to the Missouri in 1820 is quite remarkable. Reports from Louisiana in 1816 about Red River Indian mortality from smallpox stirred Secretary of War John C. Calhoun to action. James H. Cassedy, *Medicine & American Growth, 1800-1860*. (Madison: University of Wisconsin Press, 1986): 28.

⁴⁰ “Cholera emerged in epidemic form in India in 1817”, struck New York about 1822, London about 1831. It likely came up the Mississippi with garrison troops to get to the Missouri in 1820. Sheldon Watts, *Epidemics and History: Disease, Power, and Imperialism*. (New Haven: Yale University Press, 1997): 167.

⁴¹ Bell (1957[1821]): 111.

⁴² James (1966 [1823]): V.1, 445.

⁴³ Bell (1957[1821]): 115.

wrote that the space between their own camp and the town a mile away, “as well as the plain for a great extent on all sides, was covered with great numbers of horses.”⁴⁴ He would later estimate the herds at 6-8,000.⁴⁵ Bell noted that in spite of the horses, “rich soil producing an abundance of grass” covered the surrounding “level prairie.” Horses had literally displaced agriculture for the Pawnee. Still, Manuel Lisa wrote in 1817 that he had introduced

among them the seed of the large pompion [pumpkin] from which I have seen in their possession the fruit weighing 160 pounds. Also the large bean, the potato, the turnip, and these vegetables now make a comfortable part of their subsistence, and this year I have promised to carry the plough [to them].⁴⁶

James opined Pawnee agriculture was “extremely rude” in that they had but a few trade hoes but used “rude instruments of wood and bone.” It sounds like their agriculture was declining in import as their crops were restricted to “little patches” along ravines and “wherever by any [action] the grassy turf has been eradicated”, say overgrazing. They still made “a sort of wicker fence” around the plots.⁴⁷ James also said that corn was processed by cutting the kernels from the cob, boiling, and then drying them. They also grew the *pomme blanche*, which “somewhat resembles the sweet potatoe.” The increased presence of the horse at the Pawnee towns meant the practice of agriculture was lessening in import, perhaps in the process of declining from Type C to Type B agriculture. The conjunction of agriculture, infrastructure, and trade still qualifies this town as an agricardo.

Between the demands of 6-8,000 horses and still large farm plots, the Pawnee must have made a substantial impact on the local environment. Long revealed that there were two more Pawnee towns close by. The first was the village of the Pawnee Republican, four miles west of the grand Pawnee on the Loup River. This town held “40 lodges and about 1,000 souls,” who appeared to be “much inferior...to the Grand Pawnees.”⁴⁸ This town was too poor to have traders, and its best young men “joined the Bands of the Grand Pawnees or Pawnee Loups.” Still the chief offered the party hospitality, “bowls of corn & buffalo guts boiled,” and tobacco afterwards. This group had recently lost many members in a fight with the “Indians of the

⁴⁴ James (1966 [1823]): V.1, 438.

⁴⁵ James (1966 [1823]): V.1, 445.

⁴⁶ Manuel Lisa. “Letter, July 1, 1817. Quoted in Fuller (1957): 111, n15.

⁴⁷ Thwaites, Reuben Gold, ed. *Early Western travels, 1748-1846: Part II of James’s Account of S.H. Long’s Expedition, 1819-1820*. V.15 (Cleveland: The Arthur H. Clark Company, 1905): 216ff.

⁴⁸ Bell (1957[1821]): 116. Pike had found them thriving and at war with these groups in 1806.

mountains” to the west; Bell said the Pawnee warred with “Arapahoes, Kaskaias (Kiowa), and other erratic bands, who wander about the sources of the Platte and Arkansa”.⁴⁹

At Pike’s visit the Republican Pawnee had been a powerful force, an agricardo in the central plains between the Platte and the Arkansas. James informs us that this group had

seceded from the parent stock, or Grand Pawnees, some years since, and established a separate government [...] They resided formerly on the Republican Fork of the Konzas river...[from] whence they removed a few years since to their present situation, that they might enjoy the protection of their powerful allies, the Grand Pawnees.⁵⁰

James also reported that this group had “plundered the detachment from the steam boat” on the Kansas River the previous summer causing “outrage” and prompting restitution engineered by “Major O’Fallon, the Indian agent.”⁵¹ O’Fallon was the federal Indian Agent for Missouri Territory (Fig 10.1) based out of St. Charles.⁵²

Another four miles on the “same side of the river” saw them at the town of the Pawnee Loups with “about 120 lodges and three thousand souls.” This town impressed them the most for its order and industry, which included “police of the village ...named by the Chief...Knife”.⁵³ Each lodge had a stock pen into which their horses were run at night.⁵⁴ If the first town had 6-8,000 horses for 1,000 souls, did the richer Loups have 25,000 horses for 3,000 souls? Contrary to earlier reports, Pawnee commerce was now “principally with the traders who supply them with goods in exchange for peltries.”⁵⁵ They had earlier shied from the inherent dependence of the fur trade. The size of their herds meant that horses were still a major commodity. 25,000 horses in one spot meant their static location and agriculture was untenable. This was manifest in part by the relocation of the Republican town.

Here they acquired their two French guides, “Bijou and Ladeaux” (LeDoux), who could only be induced to guide them west at the threat of arrest. June 13 they swam their horses across

⁴⁹ James (1966 [1823]): V.1, 442.

⁵⁰ James (1966 [1823]): V.1, 440.

⁵¹ James (1966 [1823]): V.1, 441.

⁵² Originally, San Carlos, 1765. This was the last town L&C passed in 1804. Missouri Territory was created when Louisiana entered union as a state in 1812. The State of Missouri, somewhat truncated from its present form, was admitted to the union August 10, 1821.

⁵³ Bell (1957[1821]): 120 ff.

⁵⁴ This counters the impression made elsewhere that the Pawnee kept their horses in their lodges.

⁵⁵ Bell (1957[1821]): 122.

the Loup to the great amusement of the Pawnee. June 14th they set out along “the trace usually take by war parties of the Pawnees” headed southeast [Polyline: Pawnee trace]. They passed through their first great prairie dog town, and Bell recited Pike’s ode to the animal.⁵⁶ This also evidences the short grass plains on the Platte slopes. The rains continued as they had since leaving. They camped on the Platte valley “where the country becomes level, covered with a thick growth of grass about from 4 to 8 inches high[.]” There was no timber, a result of the long-term usage by the 5,000 Pawnee and their many horses who lived but 15 miles north [11]. Paralleling the Platte on the level ground they headed west on the 15th and encountered “a buffalo, the first we had seen.” They wounded it, and “copious” showers continued.⁵⁷ There was not a tree or bush “as far as the eye can reach.”

On the 16th they were out of meat and “were put on an allowance of one biscuit...half a pound, per day.”⁵⁸ Sensibly, they spent the day hunting, and shot a pronghorn. Sunday June 18th “according to the rules of christian civilization,” they took the day off. At this place a Cheyenne war party had killed a Pawnee camp two years earlier. The Platte was “nearly or quite a mile wide” with timbered islands [13]. Presumably the rains had also fallen upstream. On the 19th there was another great storm, and they saw a “small herd of buffalo” they could not catch. It was so hot mid-day (89°F) they stopped from 11 to 3. They remarked on the great bend of the Platte, and cut across the northern bluffs. They cut their rations the next day and spent so much time hunting they did not move. Long inspected the river with a mind to crossing, but found it impossible due to high water. It rained again.

June 21st they moved up onto the plains because of boggy land along the Platte, although they regained the river to camp. Sick of the rain, they built little hogans out of willow sticks.⁵⁹ On the 22nd they struck the junction of the North and South Platte, considerably downstream from its present location. As the rains continued into the third week, they had to go up the North Platte several miles before crossing. Forging the *North Platte* they saw “two herds of buffalo on

⁵⁶ Bell (1957[1821]): 124.

⁵⁷ Lewis and Clark passed 100 miles north of Engineer Cantonment before spotting their first bison in 1804.

⁵⁸ Bell (1957[1821]): 126. It is incredible how poorly outfitted they were considering the massive effort that had been put into the Yellowstone Expedition. This makes clear the relative value of their truncated effort to officialdom.

⁵⁹ Bell (1957[1821]): 130.

the [other] side of the river, great numbers [were] feeding”⁶⁰ [18]. James thought it no exaggeration that “at least ten thousand” animals could be seen.⁶¹ That evening they killed a buffalo, and the entry makes clear that Bell wrote as he rode on at least some days. They travelled a few miles and were able to cross the Platte to the south shore. They found here the first cottonwoods and, having used their poles for firewood, stopped to cut new ones. Their guide assured that it would be a while before they saw more. This also marked the “Pawnee frontier”, and they were advised by their guides to watch for war parties. They were just entering the steppe from the plains. And, if previous models held, as a frontier it might be expected that game would be plentiful, subject to seasonality.

On the 24th they set out “on the level bottom between the undulating prairie and the river, and began passing “immense herds of buffaloe, that come in from the prairie for water & to feed on these bottoms.”⁶² The water explanation was correct, but the bison preferred the Shortgrass plains above, for Bell observed the “bulls herd by themselves, the cows and the calves by themselves.” That night they feasted on “the choisest pieces” of a cow, the first encountered. The masses of bison solved one problem, food for the men. It also created another problem, gazing for their horses. The animals were “so numerous & have fed off the grass so short, that our horses are suffering from pasture[.]”⁶³ They had just crossed the Great Plains without seeing a cow bison or great herd of bison. To this point they had encountered adequate water and grazing. While Bell made no mention, James explored south and found the “small hills running in towards the river [were] of a coarse sand[.]”⁶⁴ These sand hills must have been covered with herbage in this rainy year, otherwise they may well have reported their first desert [20]. James here wrote that the bison range was contracting through a “process of extirpation,” and while the animals had once ranged to the Atlantic, they were now “driven beyond...the Illinois,” and the southern Mississippi.⁶⁵

⁶⁰ Bell (1957[1821]): 131.

⁶¹ Thwaites (1905): V. 15, 238.

⁶² Bell (1957[1821]): 133.

⁶³ Bell (1957[1821]): 133.

⁶⁴ James (1966 [1823]): V.1, 468.

⁶⁵ Thwaites (1905): V. 15, 245.

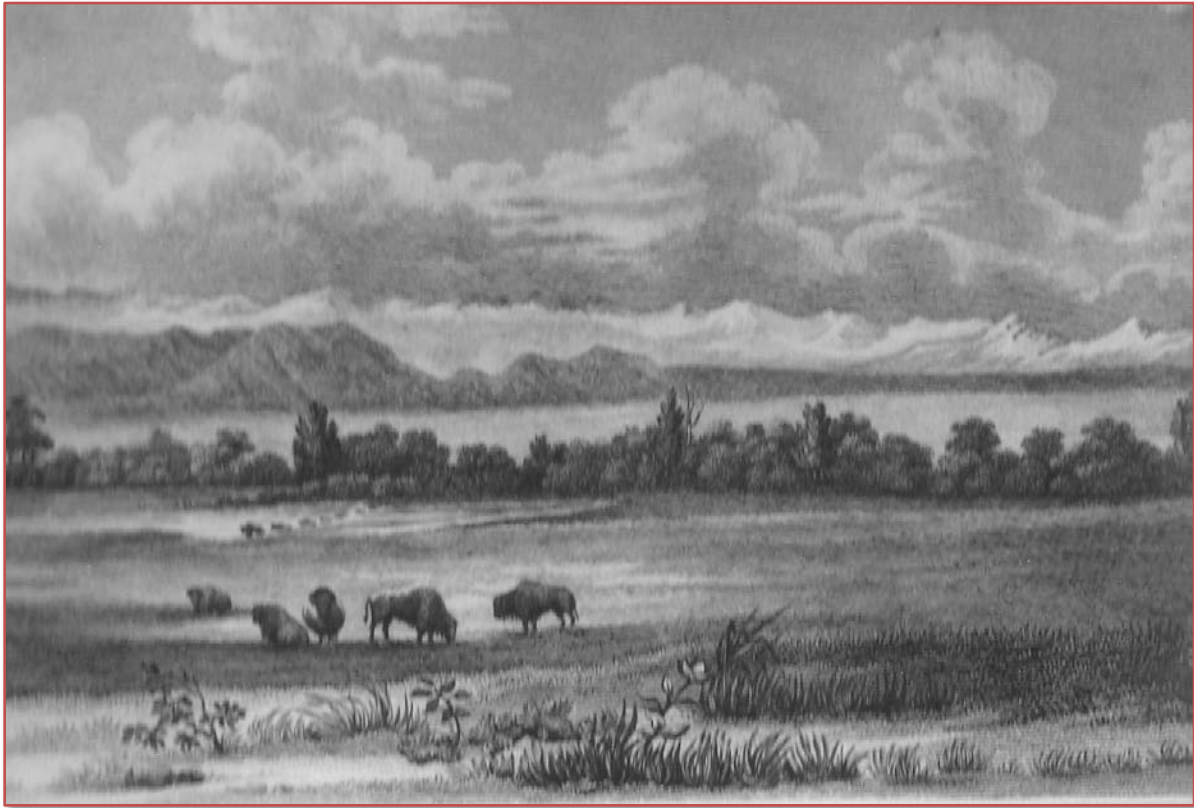


Figure 10.4. Platte View Crop. Francis Kearney, after Samuel Seymour. *View of the Rocky Mountains on the Platte 50 miles From Their Base*. Engraving. Kenneth Haltman. *Looking Close and Seeing Far: Samuel Seymour, Titian Ramsay Peale, and the Art of the Long Expedition, 1818-1823*. (University Park, PE: Penn State Press, 2008): 32.⁶⁶

The 25th being Sunday, they stopped for the day. From a height of land they could see

over the meadows In every direction, diversified with numerous herds of buffaloes. These herds...appear like columns of a large army, concentrating for a general engagement, their compact order seems to give regularity to their movements.⁶⁷

They set out on the 26th and observed an “immense number...of the buffalo crossing...from the north side of the river, the whole body must be moving off in the direction of the Arkansas River.” They seemed surprised when they fired into a herd emerging from the river below and the animals “rushed thro’ our column of march[.]”

June 27th they tracked the river to avoid the undulating steppe above, as the:

⁶⁶ This is typical of their bison representations. Nowhere in any of their paintings and drawings did Peale or Seymour attempt to represent massed bison herds. The texts are clear they saw thousands of the animals on a few occasions but never immense herds.

⁶⁷ Bell (1957[1821]): 134.

sand reflects the heat into our faces & is very injurious to the eyes—the soil is growing less luxuriant, producing less grass and plants less exculent. Crossed the point of a range of sand bluffs. [As] the bluffs contain particles of salt, the buffalo repair here to lick it... Saw a herd of Elks, which moved off at first sight of our party.⁶⁸

This was the start of the great stretch of sand hills west of 102°30 James reported they began seeing things, mistaking “turkeys for bisons...a herd of antelopes...as so many Indians.”⁶⁹ These are the first reports of mirages in the argonaut accounts. Their sentries began shooting at phantoms in the dark. Not incidentally they saw Indian sign: forts, bison skull rings, and campsites.⁷⁰ On the 28th they saw animals of all sorts: elk, wolves, antelope, foxes, buffalo, many rattlesnakes, and, “gangs of wild horses, the first seen by our party.” This was in the vicinity of “Cherry Creek”, likely *Pawnee Creek* [23].

On the 29th they passed “a gang of wild horses, and a number of herds of buffalo.” The banks began to support cottonwoods, and the “sand hill bluffs are gradually disappearing.” Their horses suffered because the grass had been cropped by buffalo.⁷¹ The rainy weather had been replaced by 90° heat and Bell and others saw mirages, although they had no word for them. On the 30th they saw a “blue stripe” to the west, “the Rocky Mountains” they supposed to be 60 miles distant, but which were in fact 100 miles distant. July 1 “buffalo [were] growing scarce” as they climbed, the river channel narrowed and they had seen no mustangs for days. That night they set out flags “as a signal of peace and friendship with the Indians, should any be about[.]”⁷² July 3rd they passed three creeks “on the opposite side, which have their sources in the mountains,” and camped on the third, *St. Vrain Creek*. Buffalo were now seen as scattered animals, and only rarely.

On July 4th Bell made a compendium entry that would carry great historical weight. After praising the republic and vowing “Absolem, fate” to those who opposed “the tranquility of the united States of America”, Bell wrote;

Resumed our march...having on our right the range of snow cap'd mountains, on our left an extensive barren paririe, almost as steril as the deserts of Arabia.

⁶⁸ Bell (1957[1821]): 136.

⁶⁹ James (1966 [1823]): V.1, 485.

⁷⁰ These defensive log structures were a regular feature of the Arkansas valley from the foothills to the lower Great Bend. This is the first one reported on the Platte.

⁷¹ Bell (1957[1821]): 141.

⁷² Bell (1957[1821]): 143.

And that is the textual basis of the Great American Desert. James made no such great pronouncement, but he did provide context for Bell's statement. They were disappointed as their goal had been to celebrate the Fourth in the Rockies.⁷³ Also, Long and Swift had scouted ahead and were missing until "past one P. M.", causing great anxiety as the party had been seeing mirage Comanches for days and feared the worst. Bell would return to the States convinced he had been trekking through a desert since leaving the Mississippi. In contrast to Bell's "steril...desert", James discussed prairie dog towns they had seen and catalogued the local flora and fauna. To celebrate the Fourth they feasted on "boiled corn soup, roasted venison, and buffalo," and drank whisky which "tasted disagreeable...not having drank spirits for some time".⁷⁴ They saw a "few scattering buffalo at a distance" and a large herd of elk.

July 5 they camped at a site that would become *Denver*, and, contrary to Bell's pessimism, gave some idea why it would appeal to settlers. They chose the junction of the Platte and Cannonball or *Clear* Creek [28]. The camp was "beautifully situated", rare words, on the Platte bank "in grove of cotton wood trees." Both river and creek were "abounding with fish & a beautiful stream of clear water."⁷⁵ James saw the first robins since the Missouri River. He was fooled by mountain air distances as he set out to track Cannonball Creek to the foothills and found them 15 rather than 6 or 8 miles away. Why was there no sign of aboriginal occupation at this site? James learned from Bijou that four years earlier the "Kiawas, Arrapahoes, and Kaskaias...had assembled [here] with forty five French hunters in the employ of Mr. [August] Choteau and Mr. Demun of St. Louis." They met to have a "trading council with a band of Shiennes" wanting to exchange British goods (firearms) "for horses." James explained that the Cheyenne lived in a country "cold and barren" whereas the "Kiawas, Arrapahoes, &c...wander in the extensive plains of the Arkansa and Red river, have always great numbers of horses, which they rear with much less difficulty".⁷⁶ This tells us the Cheyenne, who would support Bents Fort, were not yet *in situ* above the Arkansas, that the Kiowa and Bad Hearts (Kiowa-Comanche)

⁷³ James (1966 [1823]): V.1, 496.

⁷⁴ Bell (1957[1821]): 146.

⁷⁵ Bell (1957[1821]): 147.

⁷⁶ James (1966 [1823]): V.1, 502.

and allied Arapahoe ‘controlled’ these lands in 1820.⁷⁷ The Cheyenne likely blocked or controlled the transmission of horses north along the steppe.⁷⁸

They set out the next day looking for the “high Peake” of Pike. Bell wrote the sight of the mountains “interest our feelings so much we forget our fatigues.” They determined to march to the mountains and that day camped at “the gap between the mountains, where issued...the river Platte, beyond which there was no possibility of advancing with horses”⁷⁹ [30]. Bell here figured their distance travelled as 568 miles; the measure tool indicates 580. Bell’s horse had done a remarkable job of maintaining a regular pace.

They spent the 7th exploring their site. Say and Bell tried to climb “the first range” but were defeated by sharp rocks and swift streams. They ate some wild currants and became very ill “with violent pains in our heads” they attributed to heat and altitude. Meanwhile James and Peale did climb the first range but also became ill after eating currants. In spite of the 90° heat and altitude none of them had ever experienced, they chalked their ills up to bad currants. They all had doses of calomel and jallup, and “ate no more currants.” A later entry reveals they had become accustomed to bloodletting as an antidote,⁸⁰ and this far more likely than currants was causing their distress. James must have been quite ill for his records become scrambled at his point; he seems to have lost July 8th. This omission caused editor Thwaites and generations of students problems in mapping the expedition from this point on.⁸¹ It makes mapping James’ further observations particularly tricky since, unlike Bell, he wrote his account account after returning home.

Long now determined to leave the Platte and strike for the Arkansas. They coursed to the southeast and struck a landmark that situates them precisely, the “ensolated natural mound...1000 feet high [with] a steep precipice of rock” on top, being *Castle Rock*. Bell noted that Long ascended this, and James wrote that Long saw “the High peak mentioned by Capt.

⁷⁷ Harlin Fuller noted that these meetings marked the “beginning of the removal of the Cheyennes” from the Missouri (where Lewis and Clark encountered them) “to the Arkansas...where they were to form an enduring alliance with the Arapahoes.” Fuller (1957): 203, *n* 203.

⁷⁸ For an excellent discussion of the “Called out People”, the Cheyenne, including their migration and an fine map see Elliott West, *The Contested Plains*.

⁷⁹ Bell (1957[1821]): 147.

⁸⁰ Bell (1957[1821]): 154.

⁸¹ Myself included. Fuller (1957): 153, *n* 59.

Pike...it bearing ...S. 50° W.”⁸² They camped on Defile Creek, or *Plum Creek*. These valleys were full of willows, and cottonwoods, the “most favorite food” of beavers, the dams and lodges of which were everywhere. The fur-trade had not reached this valley in 1820.

July 10 1820 it was uncomfortably cold in the morning and hunters went out for buffalo and found some on the plains. They finally and astutely “bid adieu to the waters of the Platte, the last of those rivulets [that] are tributaries to the Missouri[.]” James wrote they halted on a “rivulet, near to the base of the mountain...the head of a very considerable fork of the Arkansas River[.]”⁸³ Nearby on a “swell [was] a small pond of water which when filled by heavy rains discharges...to the Platte & Arkansa at the same time,” *Palmer Lake* [**Point 1**]. A few miles away was “a monument...resembling...an extensive edifice in ruins,” that Long named “Castle rock & the rivulet the name of castle rock creek”, now *Monument Creek*. Here they saw “pine timber, a great relief to the eye” after naught “but cottonwood.”⁸⁴ Thwaites and later writers were thrown off by this name and mistook this site for today’s *Castle Rock*. Interesting that Bell and James both saw castles in what is obviously *Elephant Rock*; perhaps they had never seen an elephant (Contrast figs. 10.5/6). They did however report seeing a white bear, or grizzly, remarkably the first one they reported.⁸⁵

⁸² James (1966 [1823]): V.2, 12.

⁸³ Bell (1957[1821]): 159.

⁸⁴ Bell (1957[1821]): 160.

⁸⁵ Highly unlikely the first observed; I presume the hunters had seen many.

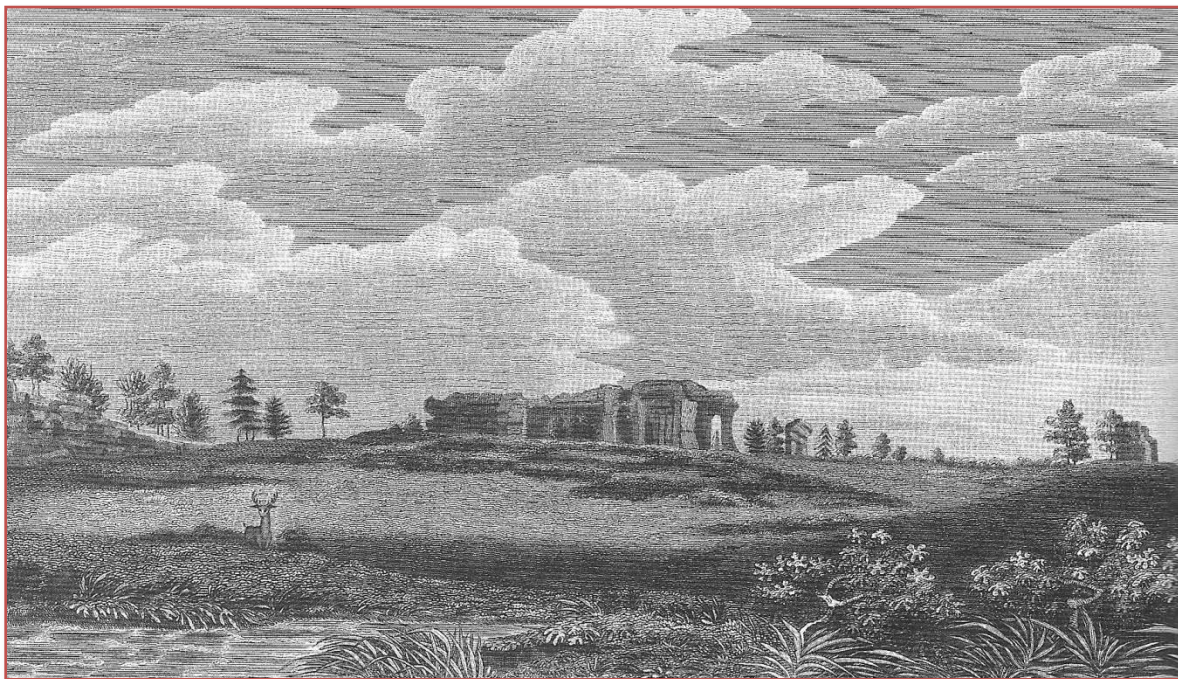


Figure 10.5. Castle Rock, now *Elephant Rock*. William Hay, after Samuel Seymour, *View of the Castle Rock on a Branch of the Arkansa*, 1822, black and white engraving. Beinecke Rare Book and Manuscript Library. Haltman (2008): 40. View from the southeast. The body of water lower left is *Palmer Lake*.

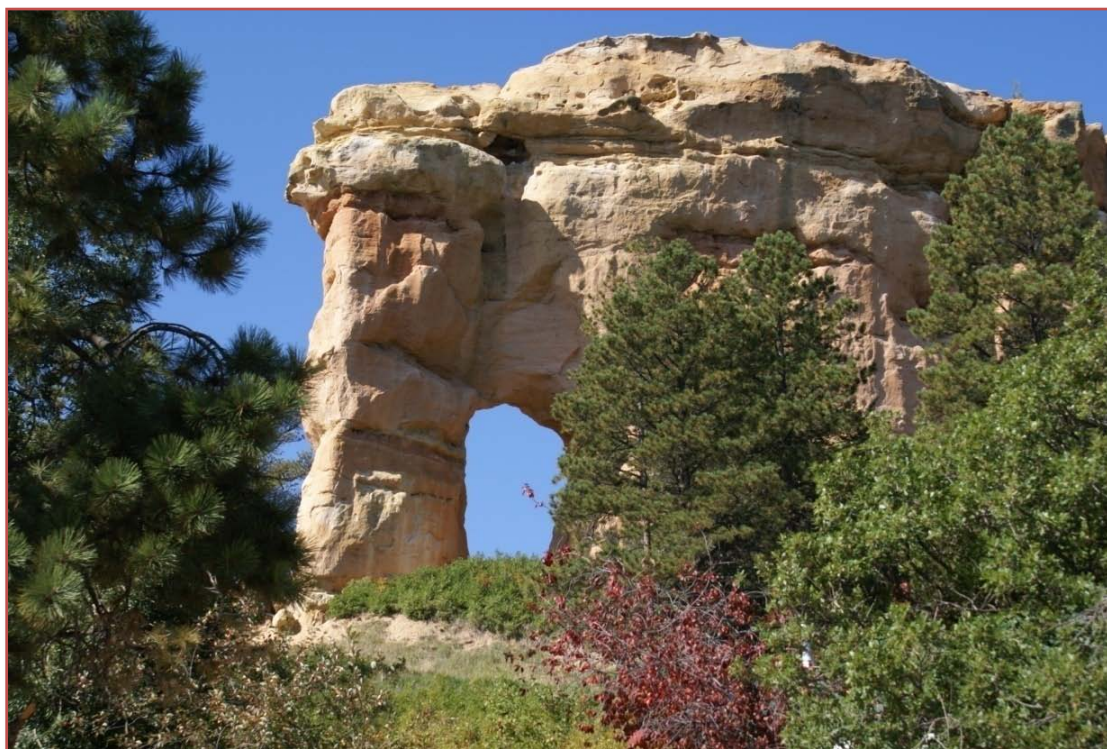


Figure 10.6. Elephant Rock. From the southeast.

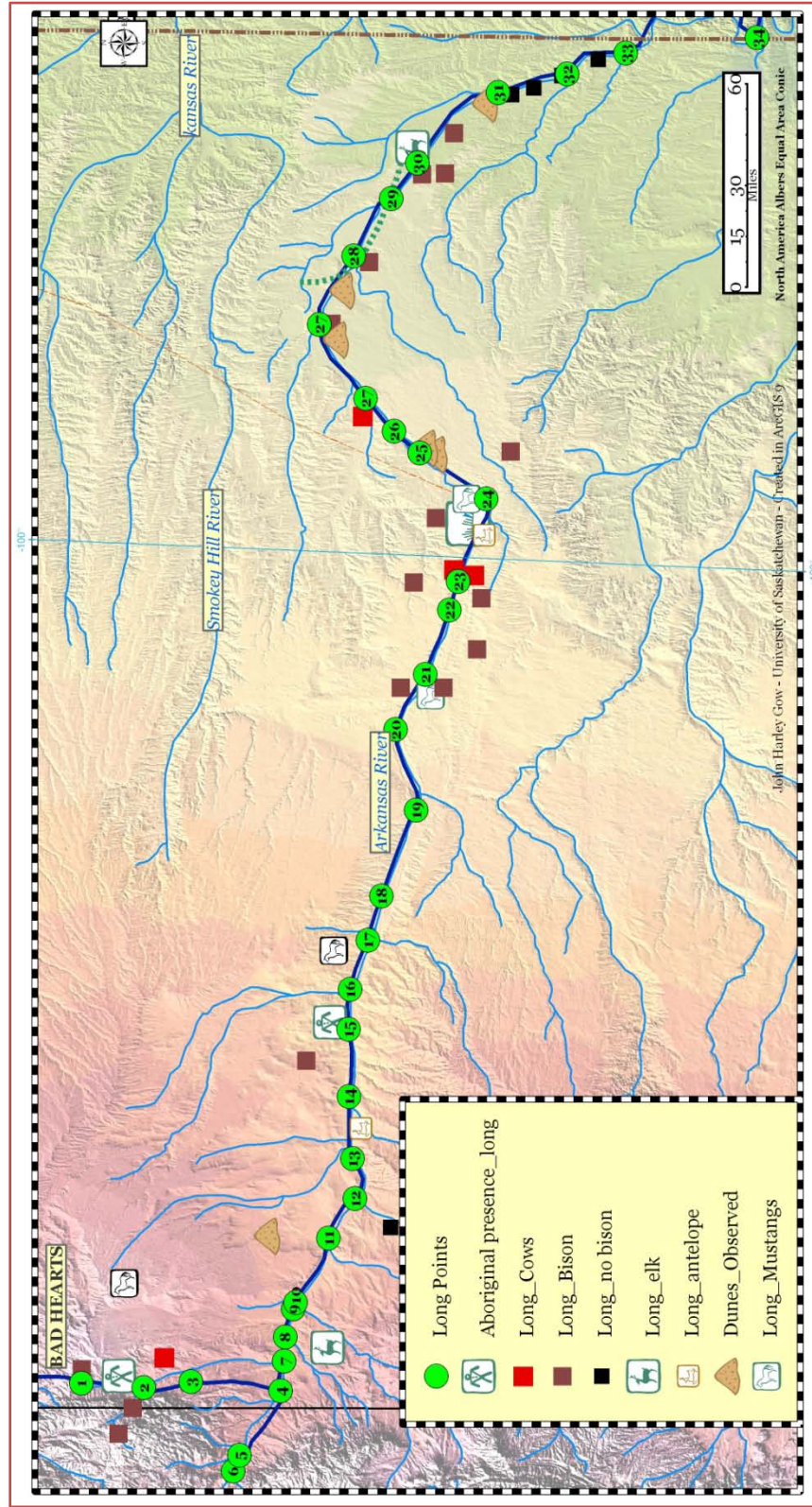


Figure 10.7. Down the Arkansas.

July 11th they began their descent of the Arkansas on *Monument Creek* and saw a “high snow caped mountain” they did not recognize as *Pikes Peak*. They began to see “well beaten Indian traces” after days of no sign of Indian presence. They were baffled by the fact they could not see “the Peake”, not realizing the foothills here blocked the Front Range from view. They found no game but saw buffalo on the plains below. Bijou saw the “Spanish mountains” 100 miles to the south and realized to his embarrassment they had passed by Pike’s mountain; this statement reveals that he had previously only approached from the Arkansas plains. They decided to camp for a few days to explore the “peake” environs. I make their spot the junction of *Fountain* and *Monument* Creeks [2]. The hunters brought in deer and a bison, and Bell waxed rhapsodic on the pleasures of cow bison meat, “a feast for an Epicure!!”⁸⁶

On the 12th they had the first big storm since the plains. An hour later the water in *Fountain Creek* increased “ten fold” and “thick with buffalo dung, washed from the bottom and prairies, accompanied with a most intolerable stench, which impregnated the atmosphere for a considerable from the creek.”⁸⁷ Another hail storm washed over and they were obliged to “make use of this water” to make soup and drink, although they skimmed the “dung off the surface” and let the water stand to settle the sand out. Still, the “disagreeable smell remained in our soup.” There was, or had recently been, a large bison herd on upper *Fountain Creek*. Swift and Bijou discovered *Monument Springs*, the boiling springs that gave Fountain Creek its name.⁸⁸ They found the pools full of Indian offerings, “beads, shells &c.”, which they collected.⁸⁹ One of the hunters “shot at a white bear and missed,” luckily for both. On the 15th James and two soldiers returned to camp, reporting they had climbed to the summit of the Peake. They described the view, that the north-slope was covered in snow and ice, and that it took two days to ascend and descend. It was not just this peak that was snow-bound; “the view towards the north, west, and southwest [featured] innumerable mountains, all white with snow...on some of the more distant, it appears to extend down to their bases.” The summit was an area “of ten or fifteen acres...nearly level [where] scarce a lichen is to be seen.”⁹⁰ There is little doubt he was the first euramerican to climb *Pikes Peak*. James also reported that 30 miles due north along a valley

⁸⁶ Bell (1957[1821]): 164.

⁸⁷ Bell (1957[1821]): 164.

⁸⁸ French traders named both spring and creek Fontaine qui bouille.

⁸⁹ Bell (1957[1821]): 166.

⁹⁰ James (1966 [1823]): V.2, 29.

“the smoke of a fire was distinctly seen...supposed to indicate...a party of Indians.” This would have been the Upper South Platte valley, the group likely Ute or Bad Heart.

Around the base, James first made notes of a variety of cacti, some 6-8 feet high and cylindrical. He also saw the first “cucurbita”, and a small buffalo herd here. Samuel Seymour painted a scene from the valley below that typified their experience at what they would designate the heart of the great American Desert, *View of James Peak in the Rain* (Fig.10.8). This scene shows *Fountain Creek* with the foothills middle distance and Pikes Peak background. The hunter walks *on* the short grass regime, as one would today. That the peak is snow capped, as per their journals, is testament to a cooler and wetter year. They never referred to *Pikes Peak*’s distinctive red color, meaning they never saw it snow-less through July into early August, a situation that would not occur today.

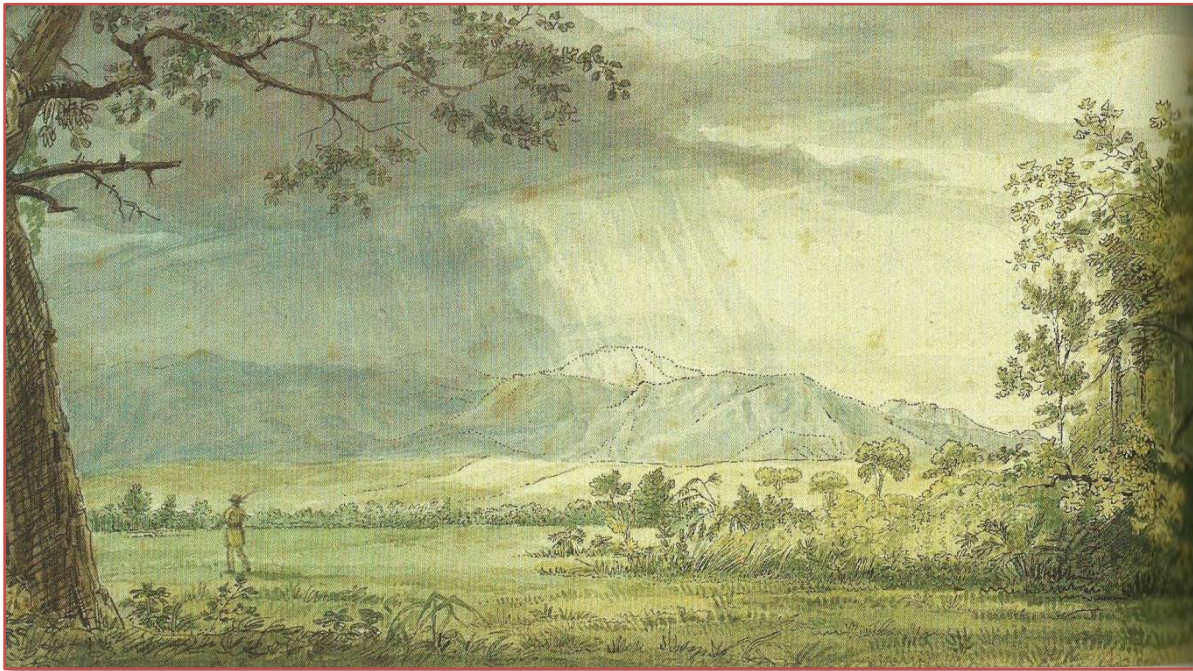


Figure 10.8. *View of James Peak in the Rain*. Samuel Seymour. 1820-22, watercolor and ink over graphite on paper. Haltman (2008): 26.

July 16 they broke their prohibition of travelling on Sundays and made 23 miles to the Arkansas River, having to take a draw around a “precipice” [4]. The valley was narrow, 500 yards (1/2 km), and the channeled river ~~wade~~^{deep} with a strong current. Pasture and cottonwoods typified the bottoms and “scrubby ceders” the highlands. The plains above were

very hot, devoid of game and water.⁹¹ Although they did not credit it, they had taken Pike's lesson to heart and would not be caught by winter. On the 17th, although both men and animals were exhausted, James, Bell, and two others set out to follow the Arkansas to the "mountains at the point where the Arkansas leaves them." They found the springs noted by Pike, naming them Bells Springs (*Canon City CO*), where James made some interesting observations [5]. Pike had found in this valley highland with cedar bluffs and meadows with much sign of Comanche horse grazing and multiple campsites. James now reported:

The Arkansa valley between [Point 4] and [Point 6], a distance of about thirty miles, has a meager and gravelly soil sustaining a growth of small cottonwood trees, rushes, and coarse grass. Above the rocky bluffs on each side spreads a dreary expanse of almost naked sand, intermixed with clay enough to prevent its drifting with the wind, but not enough to give it fertility. It is arid and sterile, bearing only a few dwarfish cedars, and must forever remain desolate.⁹²

This region had undergone massive environmental change. Ulibarri had described this point [4] as something of a paradise, but strangely uninhabited in 1706. The valley on the north was "a strand of a long league of level land and extremely fertile as is shown by the many plums, cherries, and wild grapes which there are on it." The river then bathed "the best and broadest valley discovered in New Spain ... with many poplar trees and ... the upper part most beautiful open stretches."⁹³ Ulibarri made no mention of animals or any signs of human habitation here; I surmised it was because the region was an aboriginal crossroads too valuable, and dangerous to settle on. James' report cannot be dismissed as just a negative mindset; he made very favorable comments about places above and below this point. Given both Pike and Long's evidence of continued precipitation, it was not climate but a rough century of Comanche occupation that had devastated this place. Visiting in the hundreds with thousands of horses, the Comanche and their animals had stripped the trees and diversified groundcover from hundreds of square miles of the upper Arkansas. The absence of aboriginal occupation or even sign of it here in 1820 means the place was no longer habitable. Ulibarri's paradise was James' semi-desert.

July 19 the reunited group turned eastward and passed "Castle Rock creek" [7]. Long decided that the peak should be named "James Peake", and that signifier would appear on maps

⁹¹ Bell (1957[1821]): 168.

⁹² James (1966 [1823]): V.2, 45.

⁹³ Ulibarri, in Thomas (1935[1966]): 65-66.

for a decade or so.⁹⁴ The hunters came in empty-handed having scoured “a dusty plain of sand and gravel, barren as the deserts of Arabia.”⁹⁵ In three days the hunters had brought in “one deer & 6 turkies—which was a scanty subsistanc”. They passed Pike’s “3rd Fork”, the *Saint Charles*, and noted that the “Green Horn” flowed into it above, commemorating the sport where Anza had killed Cuerno Verde (Green Horn) in 1779. James saw a large herd of elk. They pressed on and camped after 25 miles of travel [9]. At this spot “commence[d] a bottom of level land...through which the river meanders, low banks timbered with cotton wood.” The morning of the 20th the Arkansas became unpotable as “thick black sediment...come down during the night, occasioned probably by a rise...from several recent rains.”⁹⁶ Long refutes the notion of desertification caused by drought, as had Pike before him. They passed the “2nd Fork [or] Warfenno,” which took its name from the singular butte above.⁹⁷



Figure 10.9. El Huerfano/The Orphan. Having lost its “insolating” stone cap, El Huerfano is now sinking into the surrounding steppe.

⁹⁴ Popular sentiment demanded a change to Pikes Peak.

⁹⁵ Bell (1957[1821]): 178.

⁹⁶ Bell (1957[1821]): 178.

⁹⁷ Even in Long’s time there were legends about the origin of the Orphan name, and these increased over time. The head of Huerfano River are within yards of the Butte.

Past the Huerfano, Bell noted the “quantity of timber on the islands and bottoms is greatly deminishing,” signifying the Arkansas still had breadth here. However, the trees were sparser than they had been upriver in “the desert”. What then was a desert? Being on the plains above the river they noticed the “conical mounds of natural formation,” remnants of *Baculite Mesa* discussed earlier. This was the inspiration for Titian Peale’s “Two Men Crossing the Desert” (below). In this picture the river valley disappears and all that remains is two individuals exposed on a great open plain with no trees, no animals, and an exaggerated number of bumps (Fig.10.10). They could have been on the moon for all the similarities to ‘home’. The hunters killed only “a wild cat and one old & 5 young turkies.”⁹⁸ That they brought in turkeys somewhat belies Peale’s image.

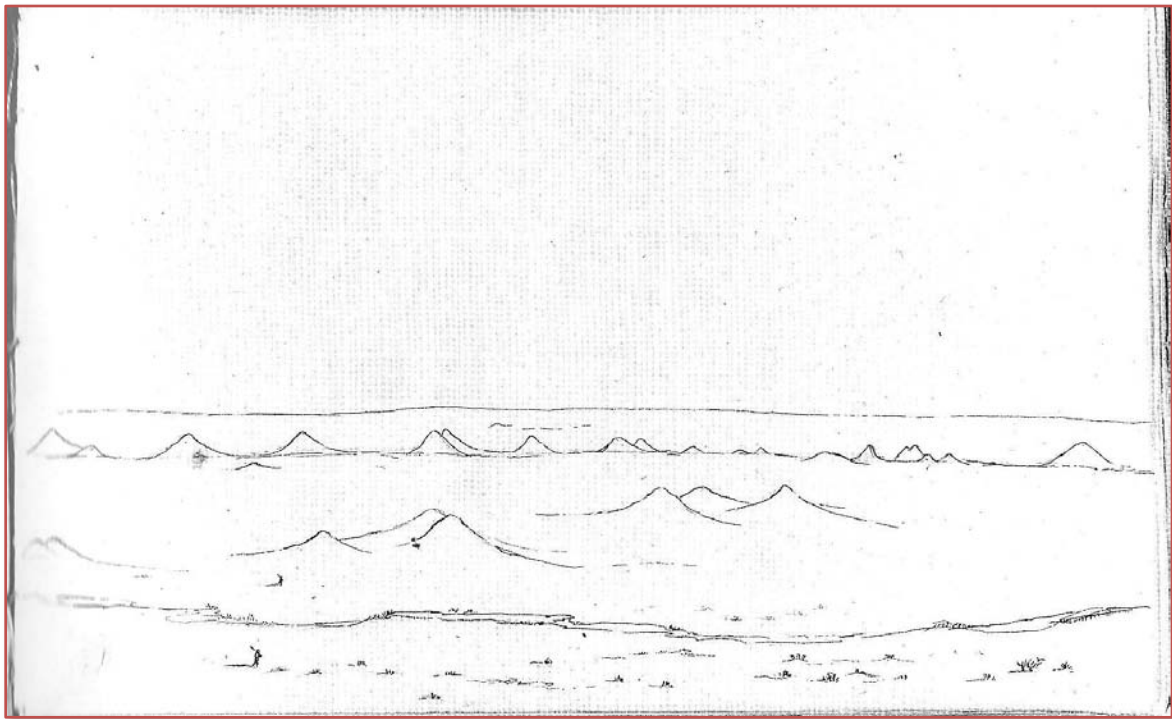


Figure 10.10. *Two Men Crossing the Desert*. Titian Ramsay Peale. July 25, 1820. Graphite and ink on paper. Yale University Art Gallery. In, Haltman (2008): 131.⁹⁹

July 21st the party would split in two, near what would later be the *Santa Fe Trail* cutoff, today’s *Rocky Ford* [12], junction of the Arkansas and Apishapa Rivers. The track was well

⁹⁸ Bell (1957[1821]): 180.

⁹⁹ The hunters are moving down the Arkansas. Peale drew this while ascending the Purgatoire River, explaining the elevated perspective.

known to their French trader guides. Here they had their first contact with Indians since the Pawnee towns, some 800 miles of travel. The western plains and steppe were hardly overrun with humans in 1820. They met a “Bad-Heart” man and woman who had left 15 days earlier (7 July) a camp of:

Arrapahoes, Kiawas, Bad-Hearts, Chayannes, La Plays, and a few lodges of Sho-Sho-nes from Columbia river... The whole on their return from Red-River, where two months since they had had a fight with the Spaniards – in which the Spaniards had suffered very considerable in killed and loss of property – the plunder taken by the Indians consisting of horses etc. had been taken down to the settlers on the Red River & there sold to the American traders.¹⁰⁰

This is roughly the same mix of groups that had met five years earlier at *Denver* with DeMun and Choteau [Fig 10.2: 28]. This remarkable alliance of disparate groups from a huge area was, I believe, unique. Even more surprising, their military operation took place in what is thought of as the Comanchería. Bell reporting the Shoshone hailed from the Columbia is not as dramatic as it seems, for they had moved over time in rough alliance with the Cheyenne to the steppe above the Platte. Those groups were sometimes lumped as Snakes. That they were here allied with Wichita and Comanche is remarkable, and indicate a trade highway from the southern to northern plains; it was the Snakes who had supplied Lewis and Clark with the horses that enabled their crossing the Rockies to the Pacific.¹⁰¹ The Comanche had now drawn south of the Arkansas for all intents and purposes. Further, as traditional enemies of the the Pawnee, this alliance explains the Pawnee abandonment of the Republican. This connection also helps to explain the downfall of the El Cuartelejo Apache presence if the Snakes had pressed from the north while their cousins the Comanche had spilled out of the Arkansas valley.¹⁰²

At the Apishapa the Arkansas widened, the river banks timbered “only...in the bends [with] cotton wood”. The hunters killed deer, pronghorn, and turkeys, but reported neither buffalo nor elk [13]. One hunter killed a buffalo bull “8 miles from camp.” Major Long also wrote a short précis here of the steppes, copied by Bell:

The region comprehended within the range commencing on the head waters of the Yellow Stone and extending southward to Santa Fee, is made up of ridges of mountains,

¹⁰⁰ Bell (1957[1821]): 180.

¹⁰¹ Colin C. Calloway. “Snake Frontiers: The Eastern Shoshones in the Eighteenth Century,” 82-92. *Annals of Wyoming* 63: 1 (1991): 83.

¹⁰² Secoy (1992[1953]):33. Hyde (1959): 117ff.

spurs, and valleys...The vallies are uniformly situated on rivers and creeks, and are many of them extensive, being from 10 to 20 miles in width. These tracts are generally very beautiful, being rolling or moderately hilly—surrounded by gentle slopes leading up to the sides of the mountains, and covered with a luxuriant verdure—they are generally clad with a rich growth of white clover, upon which horses and other animals feed with avidity. The soil is rich, and apparently well adapted to cultivation. The Indians that frequent them, being altogether wandering tribes, and having no fixed places of residence, never cultivated corn[.]¹⁰³

Bear in mind that this was the Great American Desert he was writing about.

They had another big storm on the 23rd, one of three noted since heading the Arkansas. Bell took the pleasant morning of the 24th to be a good omen for the travels ahead. He was with the tribe descending the Arkansas, and this narrative will therefore follow through with his journal. They “gave three cheers and took a southerly course over the prairie”, leaving Long’s group behind, and obviating that they had yet to reach the eastward stretch of the Arkansas. They marched past the *La Junta* bend noting that the river broadened and islands returned. They found sandy soil, many cottonwoods, and experienced another great storm. On the 25th they moved onto the plains to avoid the now “springy and soft” river banks, passed two creeks, both of which reeked “very strong of buffalo manure”, meaning bison on the plains above in former *El Cuartelejo*. They passed the Purgatoire and Bell noted:

It is about 30 yards wide having 3 feet water at the lowest time... the largest fork we have passed, having wide bottoms and affine growth of cotton wood on the margin of the banks...At its junction with the [Arkansas] there are beautiful bottoms and plains for some distance above and below, luxuriant soil producing abundance of grass[.] Six miles further and we arrived at a precipice and bluff of rocks [14] from the summit...we discovered at a great distance on the prairie a herd of buffalo feeding....we halted early to afford time to hunt[.]¹⁰⁴

They had to filter buffalo dung out of the river water to drink it. Pike had found many buffalo here in his transit [Pike Point 56]. They had turkey for supper, indicating an unsuccessful bison hunt.

¹⁰³ Long, quoted by Bell (1957[1821]): 184-5.

¹⁰⁴ Bell (1957[1821]): 189.



Figure 10.11. Bumps around Cow Butte.

On the 26th Bell noted the “rocky hills and knobs continued,” on the north side, and in the river valley “considerable groves of cotton wood trees [and an] abundance of grass.”¹⁰⁵ During this day they passed the point where Pike noticed “riverbanks began to be covered with woods on both sides”, marking the start of Big Timbers.¹⁰⁶ At 4pm they saw a few miles ahead “a number of Indian lodges”, and so pressed on [15]. They took this group by surprise, as they rushed to their horses when Bell was within a mile.¹⁰⁷ They turned out to be Kiowa with some Cheyenne and Kaskaskia individuals under “inferior chiefs”, likely meaning war chiefs. The Kiowa were familiar with Bijou and the Americans were treated “with great civility and propriety”; the Kiowa chief presented them with horses, observing the poor condition of their mounts. This party had been at the Spanish fight on the Red and had also recently fought a band of Pawnee Loup. The main group was below on the Arkansas under principal chief “Bears

¹⁰⁵ Bell (1957[1821]): 190.

¹⁰⁶ Pike (1965[1810]): v.2, 443.

¹⁰⁷ This indicates either incompetence or confidence in not being disturbed by enemies. Given the context the latter is unlikely. This is not the first time a wandering band was surprised by argonauts—hardly the stealthiest of plains travelers. I suspect that mixed groups such as this had a less effective leadership than did more cohesive or settled groups.

tooth” on a crossing point where war parties could make the Platte River (Pawnee) in “only two days.”¹⁰⁸ Just miles below Pike had noticed signs of several old ‘Comanche’ camps in 1806.¹⁰⁹

The Americans would spend two days in common camp here, but on different sides of the river. One Arapaho man was present who had been a child prisoner of the Pawnee and learned that language. This meant that Bijou could speak with him, the Crow-speakers being unintelligible but for sign.¹¹⁰ For Bell to talk to the chiefs he questioned Bijou, who asked the Arapaho, who spoke to the chiefs in their several dialects. Bell started by suggesting a peace accord, but soon switched the topic to buying meat, as the Americans were long without. Bijou conducted the negotiations for “jirked buffalo meat”, and was able to acquire enough to load their pack horses. They also purchased salt from an “Arrapahoe” woman. Samuel Seymour made a very nice watercolor of this camp and its environs.

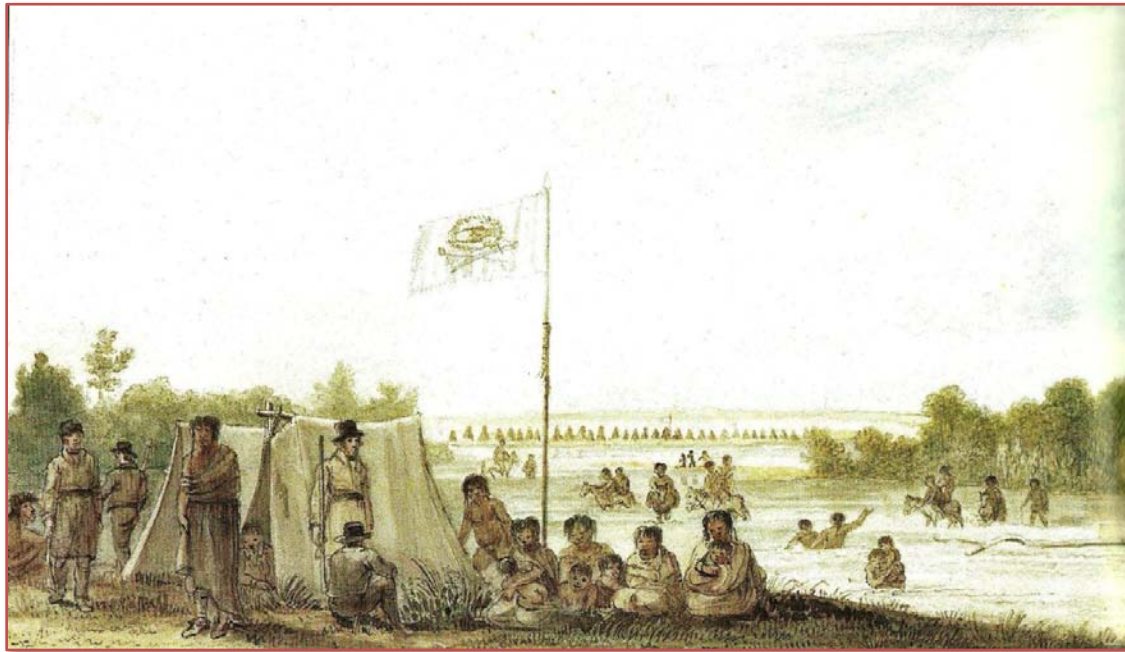


Figure 10.12. *Kiawa Encampment*, Samuel Seymour, 1820-22, watercolor over graphite on paper. Beinecke Rare book and Manuscript Library. Haltman (2008): 100. Apart from stunting

¹⁰⁸ Bell (1957[1821]): 192. The sand dune bend of the South Platte (Point 24) is 160 miles north-northwest. Following Big Sandy to Beaver Creek seems a natural route, but could they really make 80 miles a day? I suspect so. Long’s best day was 30 miles without backup horses and after a month’s travel. A war party with 2-3 horses per man likely could have doubled that mileage easily. The Republican Pawnee townsite is 260 miles northeast.

¹⁰⁹ Pike never actually saw a Comanche above Tejas but he presumed them to be almost everywhere.

¹¹⁰ Besides the group differences there were at least three different language groups present here.

the cottonwoods this is a good representation of the Arkansas plains; you can almost see the sand between the buffalo grass clumps.

Bell noted the Kiowa discipline was “rather rigid”, important for hunting and war parties; he had forgotten how they had been surprised by their approach. However with their mutual business on the Red accomplished, this big group was now devolving into band elements, and one night “the Cheyennes stole and ran off with seven horses belonging to the Arrapahoe.” It both rained and hailed and nearly every third day in July featured a storm or precipitation. Bell made an interesting guess regarding the Padouca, that “once powerful nation.” He wondered if these disparate bands had once comprised the Padouca but asked “if so, why not speak the same language[?]” Answering his own question, he decided “they were not.”¹¹¹ Bell determined that at that time this group “was at war with the Pawnees, Kawas [Kansa], Ottos & Osages [at] peace with the Pawnee Piques [Picts, the Taovaya].”¹¹² Their trade network stretched from acquiring goods—horses and other loot, perhaps slaves—on the southern plains and trading with “the Mandans and other nations who are supplied by having [English] traders residing among them. One Kaskaia told Bell that he had raided horses from the Caddo!”¹¹³ Such a route from the Taovaya agricardo around the Pawnee frontier and the Black Hills, Cheyenne territory in 1810, to the Mandan agricardo covers 900 miles. The mobile Snakes were the middlemen connecting the southern plains horse resources to the northern plains gun trade. As bison hunters and traders with large horse stocks and no agricardos to defend the Snakes did not themselves need firearms and, “had but few...among them, and these were not highly valued by them , their weapons consist of the bow and arrow, lance about 8 feet long, & war club, the warriors carry a shield about 2 feet in diameter.”¹¹⁴ Bell noted they were also ignorant of “spirituous liquors”; more likely they shunned them as did the Comanche.¹¹⁵ They could not have taken part in trade with the British at the Mandan towns and been “ignorant” of liquor.

¹¹¹ Bell (1957[1821]): 202ff.

¹¹² Note they were at war with all groups that blocked them from the Missouri. This helps explain their extraordinary trade route.

¹¹³ Bell (1957[1821]): 198.

¹¹⁴ Bell (1957[1821]): 204. The Comanche favored a much longer lance, 12-16', which they used both for hunting and fighting. They held firearms with the same regard as did the Crow.

¹¹⁵ This is an idea underexplored. The Comanche, perhaps uniquely of plains groups, could not be “induced to taste a drop of intoxicating liquors” into the 1840s. Josiah Gregg. *Commerce of the Prairies*. Ed. Max Moorhead. (London: Holborn Publishing Company, 1954[1844]): 432.

The night of the 27th they were summoned by Bears Tooth and decamped downriver on the 28th. They crossed a creek, *Big Sandy Creek*, and noted great plains and decreasing timber. It rained all night. On the 29th the Arkansas straightened out beginning its southeast run, and the number of islands decreased, as did the timber. Here the “plains are beautiful somewhat resembling the country along the Platte except they are more luxuriant [.]”¹¹⁶ Here, Pike had noticed the great herds lessening and much sign of Comanche camps in 1806 [17]. July 30 there was thick fog in the morning and showers. The arroyos of *Wild Horse* and *Cheyenne* Creeks had good grass and cottonwoods. In the afternoon they met ten Arapaho returning from a failed horse raid on the Pawnee. Thus, the Republican Pawnee were still had some presence where Pike had found them. A Kiowa with the Arapahoe brazenly tried to steal Bell’s pace horse. The Arapahoe distanced themselves from this action. It was the first time on their trip they had experienced attempted horse theft in great contrast with Pike who continually dealt with the problem. Perhaps horse stock had increased in that decade. They bought souvenirs from the Arapahoe including “medicine bags and a number of little articles of curiosity,” as well as “buffalo meat dried & pounded and a kind of little cake made of wild cherries mashed, stones and all, and mixed with buffalo fat, and dried, they were quite delicious.”¹¹⁷

July 31 passed without incident and they made almost 30 miles. August 1 it rained again, and after a few miles they met another “war party of Chayannes, of about 40 men & 4 or 5” women.¹¹⁸ These worthies were returning from a sally against the Pawnee with a woman’s scalp. The Cheyenne, “most to be dreaded and feared of all other nations” also told them the “Ietans (Comanche) have returned”¹¹⁹, if so, we have no more war parties [of] the wandering tribes to meet with.” Their travel this day was to the north, meaning they crested the small Arkansas bend [20] where Pike had seen the “immence herds”. The horse fly made its appearance here and annoyed them so much they moved out of the valley to the plains.¹²⁰

¹¹⁶ Bell (1957[1821]): 206. About 20 miles from the *Kansas border*.

¹¹⁷ Bell (1957[1821]): 210. This gives credence to the idea that neither the Apache nor Comanche made pemmican as understood on the northern plains, meaning meat, fat and berries. They did however make jerky and fruit leather separately, both dried products. I suspect this was because of climatological differences, and perhaps because of easier access to cow bison in winter in the South. Also, they were not involved in the furtrade as were Northern Plains Indians.

¹¹⁸ Bell (1957[1821]): 211.

¹¹⁹ See James, August 12 below.

¹²⁰ Bell (1957[1821]): 213.

August 2 they began the southern decline before the lower great bend and passed a great prairie dog town crawling with large rattlesnakes, a sure indicator of short grass plains. They saw a number of buffalo here, but no great herds since the upper South Platte. Bijou had crossed the plains here “8 times...as a hunter.” They saw a “large heard on the opposite [south] side of the river & a number [of herds] on this side, but so scattered & wild from having been hunted by the Indians we could not get near them.”¹²¹ This is about where Pike saw the great herds of cows, although he saw no hunters or parties in November 1806. The hunters also saw their first “gang of wild horses in number about 40” this day and they shot an antelope.” Uncannily, this is precisely where Pike had tried to catch mustangs November 2, 1806, and been bothered by curious pronghorn.¹²²

August 3 they tried to shoot some buffalo, but it was so tough to bring them down they thought their powder was ruined. Here the Arkansas was

about ¼ of mile wide and a great number of small islands...on the largest of them is cotton wood...the soil on the bottoms & plains seems rich & produces abundantly of grass and herbage[.] Great number of buffalo in sight as far as the eye can extend.”¹²³

On the 4th they saw herds in every direction, again as had Pike, and “a gang of wild horses” among them [23].¹²⁴ They only made 6 miles, as there was “no apprehensions of Indians in the neighborhood” the buffalo were calm and they were able to hunt. Here they shot “three fat buffalo cows,” and jerked the meat. There were many large grey wolves about; those on the Platte had been smaller and “yellow”. They saw “thousands of buffalo on both sides of the river”.¹²⁵ This is within 20 miles of where Pike spotted the first cows in 1806. “Not having had a supply of fresh buffalo meat in nearly a month,” they rested and put up meat on the 5th.

On the 6th they made 23 miles and “arrived at...the great bend of the Arkansas”, actually the lower bend. Their mileages throughout were amazingly accurate. At the lower bend they noticed the bluff across the river that geologically marks its change in course. The “extensive plains & bottoms present a very interesting sight of buffalo and some gangs of wild horses[.]”¹²⁶

¹²¹ Bell (1957[1821]): 214.

¹²² Pike (1965[1810]): v2, 436.

¹²³ Bell (1957[1821]): 214.

¹²⁴ Both Pike and Long called groups of horses ‘gangs’. The number 40 is an indicator of what they meant by gang.

¹²⁵ Bell (1957[1821]): 215.

¹²⁶ Bell (1957[1821]): 217.

This is where Pike had seen his first “gang of horses.” Here “Bijeu and Ladeau” took their leave. This point marked the most practicable route to cross from the Arkansas to the Platte because it touched on all the “tributary streams, of the Kansas river,” presumably via the Republican Pawnee town [Polyline: Pawnee road]. That this route replicates the Spanish Road of Pike indicates the level of geographical knowledge among those who lived and worked upon the Plains. Bell knew the guides would be missed, primarily because of their language skills. The loss of their hunting skills would prove even more critical. On the 7th they began the northern climb and noticed the bluffs to the north and cottonwood stands to the south. The plains below were covered with “innumerable herds of buffalo.” Here they made a unique observation; since the winds were high and southerly, it “blew the sand from the sand hills across the river, which annoyed us very much.”¹²⁷ Given the weight placed on dust storms in Great American Desert literature, this is the first of only two mentions of blowing sand in the argonaut sources.

On the 8th they passed “Dumun’s creek [and] where Chuteaus party was attacked by the Pawnees in 1817”, evidence of the expanding fur trade and conflict. They called *Pawnee River* Vulture creek because of the great number of those birds about. I presume there had been an Indian bison hunt in the vicinity. They had to track inland a few miles to cross it then returned to the river, where the grass had been cropped to the ground by buffalo¹²⁸ [27]. That evening a hunter shot “a fat cow—the bulls at this season of the year are not fit to eat, they run themselves so very poor” in the rut. On the 9th they crossed *Ash Creek* and they travelled through loose sandy soil “covered with a luxuriant growth of sun flowers, very disagreeable to travel thro’ and fatiguing to the horses.” The wind was high and it reached 94°. They struck a river they thought was the Little Arkansas; it was *Walnut Creek*. They camped at the mouth where there was “fine feed or pasture...shaded by Cotton wood, Elm, black walnut, ash mulberry, & coffee nut tree—we greeted this variety of timber as old friends—it seems as if we were approximation to a civilized country” [27]. This description helps explain Pike’s extended stay at this very place in 1806.

Reasonably, since their horses were nearly done, they decided to rest here. Hunters brought in deer and a “young buffalo cow” unavailable to Pike. They found many grapes and black walnuts, distant evidence of the Quiviran agricardo. I think they must have ‘smelled

¹²⁷ Bell (1957[1821]): 218.

¹²⁸ Bell (1957[1821]): 219.

home', for they moved out on the 10th, now following Wilkinson's route. The strong winds of the past week abated and they saw great storms out on the plains. They made 24 miles and passed *Rattlesnake Creek* joining from the west. Misinformed about the geography, they called it the Red river Fork of the Arkansas.¹²⁹ They continued to see bison, a very different situation to 1806. The Arkansas spread to "near $\frac{3}{4}$ of a mile, gentle current". On the 10th they were just under weigh when they spotted an Indian on horseback watching them. Bell presumed him to be an Osage but changed his mind when he noticed the man had a lance; Osage carried rifles. It turned out to be a small party of Ietans (Comanche) returning from a disastrous raid on the Osage. Rather than returning with booty the "30 men and 5 squaws" were mostly walking having lost nine of their number, 56 horses, and all their goods. The "wounded & women were riding on horses...their wounds were all gun shot".¹³⁰ The Ietan Partizan, or chief, asked if the two groups could camp together for mutual protection; the Americans sensibly refused. There was very nearly a firefight as some of the Comanche tried to take Bell's horses and goods, but the Partizan "ordered his men in". They covered 23 miles and had a bad night's sleep. They passed through dunes and a windy river course. On the 13th they passed a stream coming in from the north, *Cow Creek* [30]. The bluffs to the east receded and the plain pressed in; they marched through "the most luxuriant soil, the grass is high, and is very fatiguing" to the horses. They saw elk, great numbers of deer, and country "much traversed by Indian war parties, and not one tree." In the afternoon they began to see great numbers of bison on the plains, but their thoughts were consumed by the Osage. This region was in the heart of what Wilkinson had called the "region of game." Not coincidentally it was a very dangerous place for travelers.

On the 14th they saw the bluffs of the Ninnescah River to the south. They ran into sand hills and dunes along the river, covered with "sun flowers & high plants". The heat was intense and here their dog Caezar collapsed from heat prostration, they were all very upset, although this was the first mention of the two dogs who had been with them from the beginning.¹³¹ During the day they passed the Little Arkansas and figured their location. They were relying on what Bijou had told them for they had no maps to guide them: "How much anxiety...would have been saved

¹²⁹ Bell (1957[1821]): 222.

¹³⁰ Bell (1957[1821]): 224.

¹³¹ Bell (1957[1821]): 228.

to us, had we but...Pikes map".¹³² On the 15th at the mouth of the Ninnescah "an old Indian Viillage, or may more likely be, an Indian hunting camp for the winter season." They found growing "water melons, pumpkins & corn, we plucked some of the corn to boil" and discovered the melons were not ripe [32]. The place had many cabins "enclosed & covered with bark" against the owners' return. This would have been, from Wilkinson's reports, a Little Osage hunting camp. They must have used it in the Spring to plant, returning in Autumn for the hunt.

On the 16th they passed *Slate Creek*, found high grass and rich lands, but no bison. On the 17th they stopped travelling and sent all hands out in search of food. They settled for two fawns, and Bell wrote "we are likely to suffer for provisions." On the 17th they passed the *Walnut River*, they supposed or hoped to be the Verdigrise.¹³³ They found Osage camps here, and were so hungry they "were sadly disappointed at not meeting with the Osage Indians." They were now hopelessly disoriented and the journals difficult to follow, resembling Pike's terrible winter rambles. It sounds like Bell and company were starving, though the temperature still ran to the 90s. They greatly missed their French guides here, for they no longer reported seeing game. They had seen no bison since the Little Arkansas. Follow the river now, being too frightened to leave it, they now recorded 15-20 courses a day instead of the 2-3 on the plains. It is impossible to track their route. On the 19th, Bell discussed eating their horses; they did not. They found an Osage camp and helped themselves to corn and unripe watermelons. Another Osage townsite had many large cabins, growing gardens, and stock pens on a ridge above the river. Even some Osage hunting camps had Type B agriculture. On the 20th they left "our other dog Buck" behind in a ravine, and the hunters brought in a skunk. It rained all night.

On the 21st Bell left the Arkansas seeking the Illinois River, but to his mortification wound up back on the Arkansas, striking it from the south! As can best be figured he was at the mouth of the *Negracka River*, or *Salt Fork Arkansas* [34]. They ate the skunk, boiled, "which tasted skunkish enough".¹³⁴ Still they saw good land and handsome sites. On August 22nd it began to rain, they took a fawn carcass away from a wolf, and saw "extensive bottom as far as the eye can reach, beautifully variegated with copse of timber." The rain continued on the 23 as

¹³² Bell (1957[1821]): 229. Either Long had the map with him, or they never bothered to bring it. The decision to descend the Arkansas had been an ad hoc one.

¹³³ Bell (1957[1821]): 234.

¹³⁴ Bell (1957[1821]): 240.

they passed over a “delightful range”, one of the hunters killed a hawk and they saw some deer. Discouraged at trying to follow the impassable rivers banks they began to take Indian, or possibly animal, ‘traces’ and became hopelessly lost. While they were wandering they missed the mouth of the Cimarron River, which might have helped them re-orient. Throughout, Bell made glowing comments about soils, timber, vales, and occasionally, prairie. During this epic wander, three of the soldiers deserted taking the gear, civilian clothing, and the best horses including Bell’s reliable distance marker. Tragically, Dr. Say’s journals, vocabularies, topography, and zoology were taken and likely thrown away. Bell also lost all his writings but for the daily journal. This reduced the party to Bell, Swift, Say, and two civilians.

The August 31st desertion happened as they struck a verifiable location, the mouth of the Verdigris River [35]. Here they discovered a number of Indian roads and followed one downstream. Bell read the temperature at 94°. The Arkansas valley was much changed, and was now more open or park-like, with rolling hills instead of the ridges and “mountains” above. Even the river was different, as it now had sand bars and water that were both red, this being the impact of the Cimarron on the main stream. They encountered an “Indian on horseback” who identified himself as of “Clermont’s band of the Osages,” the Arkansas Osage. This “noble generous Indian” gave them some food and tobacco, “the greatest Luxury of all”, and taking Bell’s rifle soon returned with a deer. Apparently they had been looking in the wrong places for game.

Soon they met with Clermont, whose band was preparing for a great buffalo hunt. He was hospitable and gave the Americans a feast and lodging. Bell gave no estimate of the number of people, or horses. Bell was given bags of dried corn “& 3 mats of pumpkin,” and purchased more of both. They bought horses ‘on credit’ with the promise of later payment. Clermont was unwilling to get involved in tracking down the deserters, and complained of nearby “white” settlers stealing Osage horses. On September 5 Bell and company struck the first American presence on the Arkansas, the trading post of Hugh Glenn situated between the Verdigris and the Grand (Neosho) Rivers just above the Arkansas [36]. Glenn was away but his interpreter was present along with several soldiers. A “number” of Indian women were processing deerskins. The Grand was “the most beautiful stream...west of the Mississippi”, on striking it they ran into thick cane brakes, the first encountered. This is also where Wilkinson reported the grass in 1806. Bell reported that there was now an American salt works 14 miles up the Grand River.

September 6 they found “Beans salt works” in the process of being set up just above the Illinois River [37]. “[Y]oung Mr. Bean offered them cold buttermilk and showed them his “40 kettles for boiling the salt.” He operated here “on the public land by permission...from Genl. Miller.” The salt was obtained from a well, rather than flats or mines, which produced “one pound of salt to the gallon.”¹³⁵

They now encountered streams and locales identified by French signifiers marking the northern limits of French settlement on the Arkansas.¹³⁶ They began to notice much sign of travelers and camps, this being the frontier of settlement. Bell noted the “bottoms and fine cane land” that would attract settlers. The army presence at Glenn’s was further evidence of impending domestication. On September 9 they struck Fort Smith or Belle Pointe, established by Major Long in October 1817. Within miles of where Wilkinson had found the first French settler in 1806, Fort Smith now boasted a store owned by Glenn, and “citizens resident” supplied the fort and store with “fresh meat, butter, milk vegetables etc”.¹³⁷ Major Long and his party showed up on September 13.

Bell unfortunately published no book or other documents apart from an official report. From this document he stripped what a social or environmental historian would think of as interesting. He did however provide some information about the state of the frontier at that time. Settlement was prohibited west of this point by the Federal government, perhaps the salt works and trading post had some special exemption. This was because “a negociacion has been on foot with the Osage Indians for the section of the country above the Cherokee boundary & below the rapids or falls of the Verdigris river[.]” Bell noted that this country held some of the best lands in the “Arkansas country.”¹³⁸ The incoming Cherokee were now settled behind Fort Smith. On his descent of the lower Arkansas Bell noted, besides the Cherokee, farms and settlements taking hold. James wrote the Cherokee settlements vied with, or “even surpass[ed] those of the Americans in that part of the country...for comforts and conveniences.”¹³⁹ The Quapaw still farmed their lands, but were much diminished in population.

¹³⁵ Bell (1957[1821]): 272.

¹³⁶ Bell (1957[1821]): 273 .

¹³⁷ Bell (1957[1821]): 279.

¹³⁸ Bell (1957[1821]): 283.

¹³⁹ Thwaites, Reuben Gold, ed. *Early Western travels, 1748-1846: Part IV of James’s Account of S.H. Long’s Expedition, 1819-1820*. V.17 (Cleveland: The Arthur H. Clark Company, 1905): 128.

Most of Bell's opinions of the west he had seen were restricted to the immediate frontier and he otherwise made no compendium comments about the land he had crossed apart from his two disparaging comments in the foothills. The legend of the Great American Desert did not originate with Bell's journals. Bell did however make a lasting impression with readers of the *National Intelligencer* when he told a reporter from that Washington newspaper that:

about half way between the Mississippi River and the Pacific Ocean, an exploring party has met with several tribes of men, the aborigines and proprietors of the soil of the country, who were ignorant, not only of the existence of the People of the United States, but of the existence of a race of White People! It gives an awful idea of the magnificent extent of the domain of the Republic.¹⁴⁰

Besides the fact that Bell turned fictionist briefly in regards to the ignorant aborigines, this passage allows for re-introducing the Gallic notion of a desert as a place where Les Sauvage chased les boeufs. That a place so strange and far away could 'belong' to the "soil of the country" was still in 1820 "an awful idea."

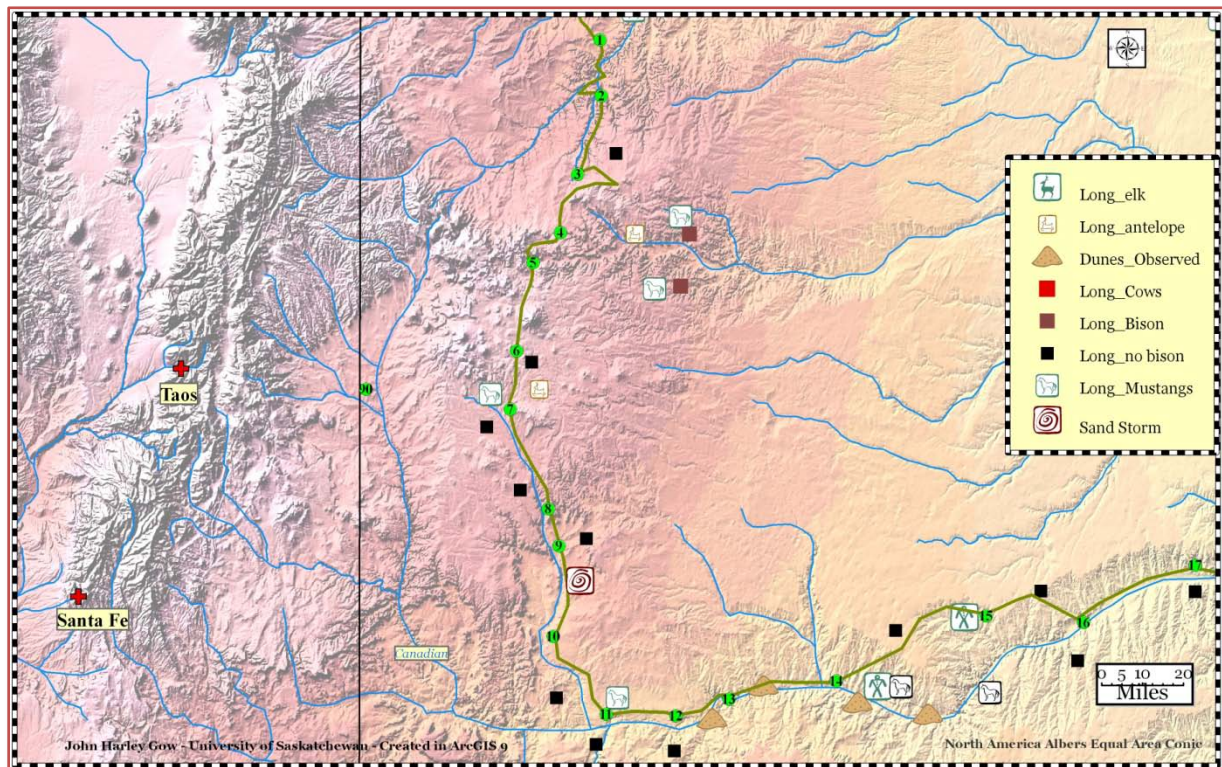


Figure 10.13. Long on the 'Red'.

¹⁴⁰ "A few minutes conversation with Capt. J.R.Bell." *National Intelligencer* Washington, November 15, 1820. In, Fuller (1957): 337.

And what of the other half of the expedition, what sort of place did they explore? On the July 24th Long, James, and eight other men with six horses and eight mules, crossed the Arkansas, gave three cheers for the Bell party, and headed south,¹⁴¹ the future *Santa Fe Trail*. This section of the Long Expedition has been capably tracked on the ground by Goodman and Lawson who offer many insights into locations.¹⁴² The first day they made 27 miles and saw barely enough wood for a campfire. They saw a “gang” (30-40) of bison at a distance, and paths heading southwest to “the Spanish settlements.” The temperature was about 100°. On the 25th they stuck and crossed the Purgatoire, and James’ observations were limited to describing stone. The cuts and gullies made traveling difficult. It rained that night and the following day, and as they had but one tent the slept with their heads to the center feet outside like the “radii of a circle.” On the 26th they saw the tracks of an enormous bear and buffalo sign. They headed *Chacuaco Creek* and realized water might be problem ahead. Cresting a ridge in leaving the Purgatoire watershed, they saw a fantastic view [4]. Ahead was “the interminable expanse of the grassy desert,” now *Comanche National Grasslands*, to the south and east dotted with conic mounds and “insulated table like hills”, or mesas; “herds of bisons, antelopes, and wild horses, gave life and cheerfulness to the scene.”¹⁴³ The broad valley of the Arkansas, “studded with little groves of timber” was to their left. Heading due south they found “unwonted verdure and freshness in the grasses” and discovered they were in a new soil province. Still, potable water was a problem. The hunters saw buffalo, wounded a young bull, then had to fight off the droves of wolves that brought it down.

¹⁴¹ James, in Reuben Gold Thwaites, ed. *Early Western travels, 1748-1846: Part IV of James’s Account of S.H. Long’s Expedition, 1819-1820*. V.16 (Cleveland: The Arthur H. Clark Company, 1905): 62. After, James (1905):V.16, 62).

¹⁴² George J. Goodman, and Cheryl A. Lawson. *Retracing Major Stephen H. Long’s 1820 Expedition: The Itinerary and Botany*. (Norman: University of Oklahoma Press, 1995). This monograph is a catalogue of the plants collected and reported. There is a strange disconnect between the botany and the route, as if the project was printed when half-done.

¹⁴³ James (1905):V.16, 75.



Figure 10.14. “Interminable Expanse.”

On the 28th they headed southeast and struck the broad valley of a river, sandy at the bottom, the *Dry Cimarron* [5]. Cylindrical cacti abounded, and the grassy plains shone from the rainfall. On the 29th they came to “the foot of the cliff which separates the valley from the high plain” and so they turned “with a sort of involuntary motion towards the west.”¹⁴⁴ On the 29th they climbed a cliff to leave the *Cimarron* valley for the plains, and a violent storm blew in from the northeast. They stopped to shelter, noting the paucity of their stores, then set out again. A second storm forced them to stop again. Bell also reported this weather on the Arkansas. The temperature fell to 47°, and Mr. Peale was so afflicted, he could only be righted by “the free use of opium and whiskey.” On the 30th they saw pronghorn and mustangs, all “wild and shy” from having been hunted, but no sign of buffalo. A hunter brought in a black-tailed deer, and they were glad to eat of it. Peale made a very nice watercolor of the mule deer and its environs (below). The volcanic stone they rode over destroyed their horses’ hooves. They inferred they

¹⁴⁴ James (1905):V.16, 81.

were on the borders “of some permanent settlement, either of Spaniards, or Indians.”¹⁴⁵ They entered a stream valley that ran to the southeast, *Ute Creek* [7]. The Long map shows them descending the Mora, meaning the Canadian, but that stream was thirty miles west. Further, they descended a dry stream for “100 miles” which would not describe the Canadian in a rainy July then or now.



Figure 10.15. *Blacktail Deer*. Titian Ramsay Peale., 1822. Watercolor over graphite on paper. American Philosophical Society. Haltman (2008): 154.¹⁴⁶

They entered a region where dry stream beds in deep “valleys” or arroyos ran to the east, the *Canadian* steppe. Chokecherry and currant bushes were the only “woody plants met with,” and those only in the valleys. They incorrectly believed they were near the head of the Red

¹⁴⁵ James (1905):V.16, 83.

¹⁴⁶ James wrote the “black-tailed or mule deer, is found only in the neighborhood of the mountains. Hilly and broken lands seem to afford them their favorite pasture ground.” James (1966 [1823]): V.2, 320. Note the groundcover including the *cucumis*.

because the land visibly fell away in that direction; Pike's influence at work here. They figured to find the Red and descend to "a country abounding in game," such was the reputation of that river course. Meanwhile, deep valleys, broken rock, scant water and no game impeded them. On the 31st the hunters killed a "small fawn and a heron."¹⁴⁷ That night they descended 400 feet down a running stream bed to camp. The sides of this canyon were "rudely inscribed" with figures, some with crosses, others smoking, some leading horses. They concluded they were at the site of some friendly New Mexican trade meet, and finding corncobs decided it had been fairly recent. Perhaps it was the site of regular fairs. They shot mule deer and saw many rattlesnakes and "orbicular lizards." The rain abated for a few days, but returned August 2. They found the river valley leading due south. Where the valley widened they saw "an immense circular elevation", or mesa [9].¹⁴⁸ The violent storms returned, and they would have had a badger for dinner but could find neither wood nor buffalo chips. The hills fell away and they entered a "vast unvaried plain of sand."¹⁴⁹ Any water they found was thick with salts.

On August 3rd they were "becoming somewhat impatient on account of thirst" as they entered a region of loose red sand. This day the sun beat down and they experienced the first sand storm reported by an argonaut [**Polygon**]. In a "burning atmosphere...scorching particles of sand, which had been raised by the wind" almost suffocated them at times. They were now passing through what would become *Harding County, NM* and very close to the epicenter of the *Dust Bowl* in the 1930s. Luckily they stumbled onto a pool of stagnant water which, although "muddy and brackish, was not entirely impotable" and some wood scraps let them roast their badger and a burrowing owl.¹⁵⁰ They were no longer keeping track of courses or mileages. On August 4 they were passing through a "barren and desolate region" when they struck an "inconsiderable stream" flowing southeast, the water of which was brackish and the color of "florid blood" from the "quantity of red earth" suspended in it. They spied here a large Indian trace crossing the river from the west, recently traveled, and assumed this to be "the road leading from the Pawnee Piqua (Taovaya) village on the Red River to Santa Fé." To them this river was

¹⁴⁷ James (1905):V.16, 86.

¹⁴⁸ Buttes at Buyer's NM.

¹⁴⁹ James (1905):V.16, 91.

¹⁵⁰ James (1905):V.16, 94.

obviously the Red River; of course, it was not, but rather the junction with the Canadian¹⁵¹ [11]. There was no sign of buffalo, and they suspected it was because of the human traffic, a game sink in other words.¹⁵² They were afraid it would continue as they followed the 'road'. They saw some mustangs, one of which followed them. A hunter shot it and they ate it. The next day being Sunday and there being "a supply of grass" for their jaded horses, they did not travel. They got used to drinking the river in spite of it having the "temperature and saltiness of new milk."¹⁵³

On setting out August 6 they misplaced the Indian trace to their regret and followed the sandy river course.¹⁵⁴ On the plains they saw "gangs" of mustangs with "numbers of colts and some mules," as well as prairie dog towns on the short grass.¹⁵⁵ The mules must have run, or been run, off from some one's remuda. They had to cross and re-cross the river to avoid ravines, and "constantly" saw sign of Indian camps and usage of trees. This is where Hurtado had reported dunes in 1715. On the 8th they struck a "more plain and fertile country," meaning the valley had mixed grasses, and the river valley widened. They travelled "due east"; all the channels running to the river were dry, and there was no game.¹⁵⁶ On the 9th they ate the putrid remains of the horse killed on the 5th, the temperature in the high 90s. Heading due east they luckily found a clear spring. Although the wind was high there was no blowing sand. In the afternoon large numbers of carrion birds, wolves and "jackals" gave them hope there were bison, but they saw none. Long did not have the French guides with him and suffered earlier than did Bell from lack of game. The temperature hit 96° and they struck a major dry river valley from the north, *Rita Blanca Creek* [14].

August 10 it was 71° at sunrise, and not long after they set out they ran into a mile-long train of "Kaskaiaas, of Bad-Hearts", all on horseback including small children tied to the saddle. Additionally the women looked after "a greater or less number of horses" which they drove

¹⁵¹ Hard to tell from the text, but the Long map is clear on this site.

¹⁵² Game sinks apparently sometimes occurred along well-travelled routes.

¹⁵³ James (1905):V.16, 97.

¹⁵⁴ The Indians, and traders, being too sensible to follow the sandy valley bottom stuck to the upland plain, as did travelers on the Arkansas.

¹⁵⁵ On these highlands Goodman and Lawson found in 1995, prickly pear and cactus, hairy grama, false buffalo grass, sunflower, mesquite, yucca and juniper: shortgrass plains unburned and ungrazed. Goodman (1995): 93, n 9.

¹⁵⁶ James (1905):V.16, 101.

ahead of them.¹⁵⁷ One of the Kaskaia was an old man who spoke Spanish. This group had been hunting on the Rio Brases (Brazos) and the Colorado River of Texas. They were on their way to meet with Spanish traders at the head of the Canadian [90]. Long remained convinced they were on the *Red River* as that is what the Kaskaia and the New Mexicans called the Canadian—as evidenced here and in Dunbar the Spanish called the upper *Red River* the Black River. Long therefore completely misunderstood what the Kaskaia told him about geography. Likewise, the Kaskaia did not believe his plans! Long was told that in ten days travel he would strike the “permanent town of the Pawnee Piquas”, Taovaya town, and a large band of Cumancias who were hunting there.¹⁵⁸ He was also told that, at the point they had crossed the Indian road they had been three days from Santa Fé. The Americans were stunned with the rapidity with which the Indian women set up the travelling camp. They unloaded tipis and food from horse travois. James learned one aspect of Indian trade in that the each lodge required 6-8 poles which were not found anywhere in the Kaskaia’s country. These had to be purchased from Indians on the Missouri in exchange for horses; the exchange rate was “five of these poles...to a horse.” They had bags of bison jerky and coarse salt they obtained to the south, possibly from the Taovaya. Long wished to buy horses and food, and they first seemed amenable. The head man was named Red Mouse, and the camp had 32 lodges, “about two hundred and fifty souls...Among them only twenty-two armed men.” They had no firearms, but more than five hundred horses...some of them very good.”¹⁵⁹ They never raised the issue, but it seems likely the majority of “armed men” were elsewhere raiding and/or fighting.

They met a captive Spanish-speaking child from New Mexico, indistinguishable from the Kaskaia but for his language and ability to make the sign of the cross. Long learned that this group lived about the heads of the “Platte, Arkansa, and Rio Del Norte,” and hunted to the Brazos and further.¹⁶⁰ As with the Bad Hearts on the Arkansas, this trade linked the Southern plains with the Northern. They favored the alligator and had charms of that animal; indicating they knew the lower Red. They dressed as Plains Indians but had much sign of “rheumatic and

¹⁵⁷ James (1905):V.16, 104 ff.

¹⁵⁸ James (1905):V.16, 106. 260 miles away by the Vial route.

¹⁵⁹ James (1905):V.16, 113.

¹⁶⁰ If this was a one leg of a seasonal round the mileage is about 650 miles as plotted. This meeting would August meeting would have easily allowed for the Bad Hearts to be back on the Platte or Arkansas for the fall bison hunt.

scrofulous diseases...rickets...ulcers” they had not noted elsewhere. James chalked this up to their living in the harsh climate of the Rocky Mountains; much more likely it was their contact with the Red lowlands. Apart from a few trade trinkets, they had nothing that was not made from wood or bison. One man, who received a pistol from an expeditionary, traded it back for a knife. Long thought them the “poorest Indians” he had ever seen,¹⁶¹ misreading their mile-long train of horses. Due to a serious misunderstanding the two parties parted without having traded.

August 12 they headed onto the plains in 100° weather and blazing sun. They saw naught but dry streams and camped on a wide dry river valley. On the 13th the Canadian began to serpentine so they moved into some hills where they found a stream and fresh road of Indians they feared to be “erratic hordes” of Comanche. Sign indicated they were more numerous than the Bad-Heart group. This trace is likely connected to the Bell observation of July 31 that the “Ietans” had returned to the Arkansas, perhaps along this ‘natural’ route to the Arkansas. They found a new platform grave with a rude cross and a fresh pair of moccasins tied to it. Seeing some trees on the river below, they descended to camp [16]. Grapes and Osage plums were common and ripe. James described the country they had passed through as “extensive tracts of loose sand...destitute of plants, and so fine as to be driven by the wind.” In some places the sand looked like waves, and the only woody matter was “a few plum bushes.”¹⁶² They saw numerous defensive forts along the river, some big enough to hold 100 men, and this made them nervous. Clearly the Canadian River was the main highway east west.

On the 15th they saw buffalo and great numbers of scavengers [18]. They succeeded in shooting a buffalo, jerked it would tide them over several days. On the 16th high winds meant another sand storm. Along this part of the river tall trees were nearly buried in the sand dunes they anchored. The Canadian began to disappear and what water they did find was so fouled by bison and other animals as to be unbearable.¹⁶³ August 17 they began to notice bands of mustangs, and small herds of bison in the *Antelope Hills*. They discovered that bison bull meat was virtually inedible at this time of year, even to hungry men. They got a respite from the 105° heat when a strong wind and hailstorm pummeled them with one inch stones that covered the ground. The huge downpour disappeared into the sands of the river valley. When they

¹⁶¹ James (1905):V.16, 118.

¹⁶² James (1905):V.16, 126.

¹⁶³ James (1905):V.16, 130.

resumed travel they discovered, astonishingly, “countless thousands” of buffalo gathered to consume any water that had pooled [19]. They now discovered that by digging a few feet they “scarce ever failed” to find a supply of water, helping to explain both bison locations and Indian roads.

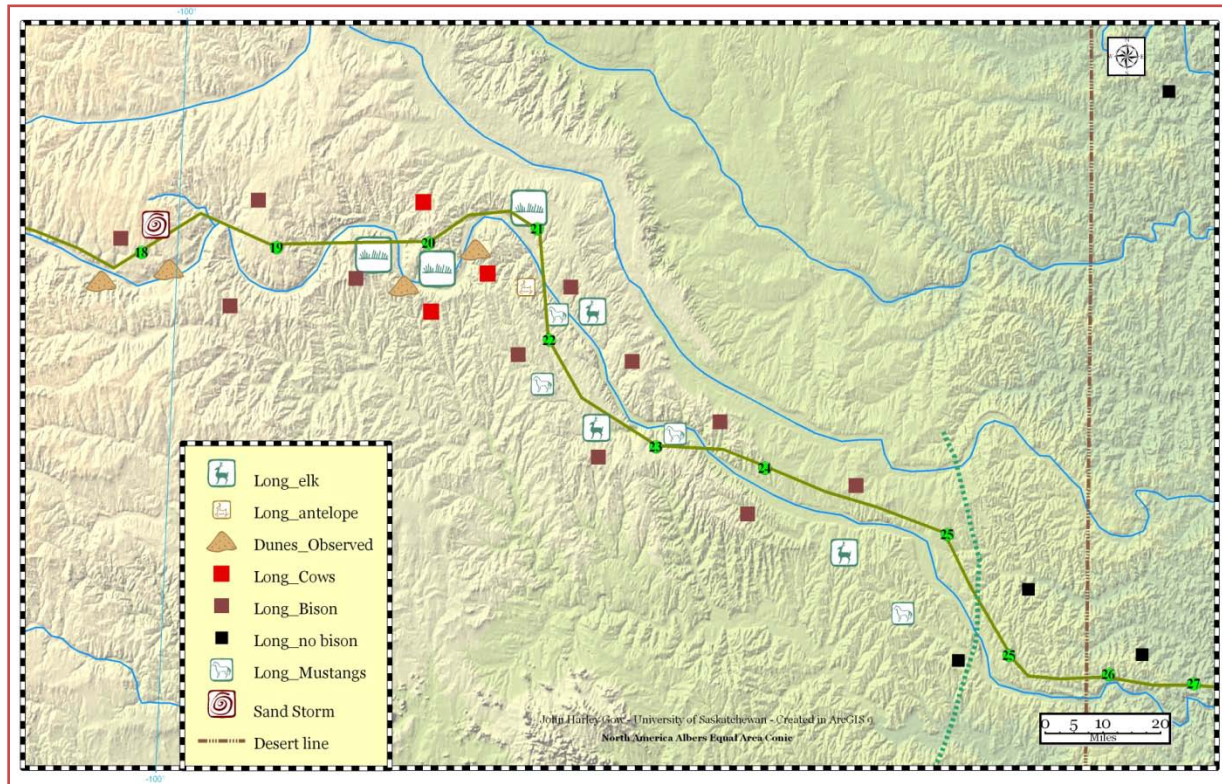


Figure 10. 16. Lower Canadian.

Also on the 17th they encountered the first great “herds of cows,” and were happy to kill several [20]. On the south side of the river the *Antelope Hills* continued. On examining small mounds of sand they discovered grape vines buried in sand, “so loaded with fruit, as to present nothing to the eye” but grapes “incomparably finer than any other native or exotic...met with in the United States.”¹⁶⁴ By August 19 they were beginning to ‘suspect’ they were not on the Red River, although still anticipating approaching the Taovaya towns. On ascending to the plains a few miles they were surprised to find “plenteous but close-fed crop of grasses...occupied by extensive marmot (prairie dog) villages,” and land “too sandy to retain moisture” for farming. However the “luxuriance and fineness of the grasses, as well as the astonishing number and good

¹⁶⁴ James (1905):V.16, 135.

condition of [grazers] clearly indicate its value” for pasturage.¹⁶⁵ James was sure that with burning and the introduction of “cultivated gramina” the place could be useful for ranching. No sooner had they found these happy climes than they were pestered by blow flies and ticks. Black bears were now common, attracted by wild grapes, as were turkeys. The temperature continued in the high 90s, and thunder storms began.

With the humidity and rich grasses the countryside was “swarming with innumerable herds of bison, wild horses, deer, elk, &c” [22-24]. Great numbers of birds were attracted by “larger bodies of water” than they had seen for months.¹⁶⁶ Wild horses now tried to attract away their own animals. August 22 it rained so hard that they saw the first running water in two weeks. James noted that Lewis and Clark’s record had been ridiculed for the frequent mentions of “dry rivers” incomprehensible to Easterners.¹⁶⁷ That day they saw a plume of smoke on a hill and decided it was Indian communication. August 23, 1820 they began to report post oak and other trees. They would not realize until days later, but they had left the lands of wild horses and buffalo, if not sandy river bottoms. On September 6 they passed “the only spot in a distance of six hundred miles we can hope to identify by description,” a small cataract on the Canadian, eight miles above the confluence of the North Fork Canadian. James here made his desert pronouncement:

Beyond [westward] commences the wide sandy desert, stretching westward to the base of the Rocky Mountains. We have little apprehension of giving too unfavorable an account of this portion of the country. Though the soil is in some places fertile, the want of timber, of navigable streams, and of water for the necessities of life, render it an unfit residence for any but a nomadic population. The traveler who shall at any time have traversed its desolate sands [will] join us in the wish that this region may forever remain the unmolested haunt of the native hunter, the bison, and the jackal.¹⁶⁸

They pressed on into the same heavy rains and storms that Bell faced, unaware that he had experienced a journey as difficult as or worse than theirs. They rejoined their companions at Fort Smith September 13, 1820,

¹⁶⁵ James (1905):V.16, 142.

¹⁶⁶ James (1905):V.16, 146.

¹⁶⁷ James (1905):V.16, 148.

¹⁶⁸ James (1905):V.16, 174.

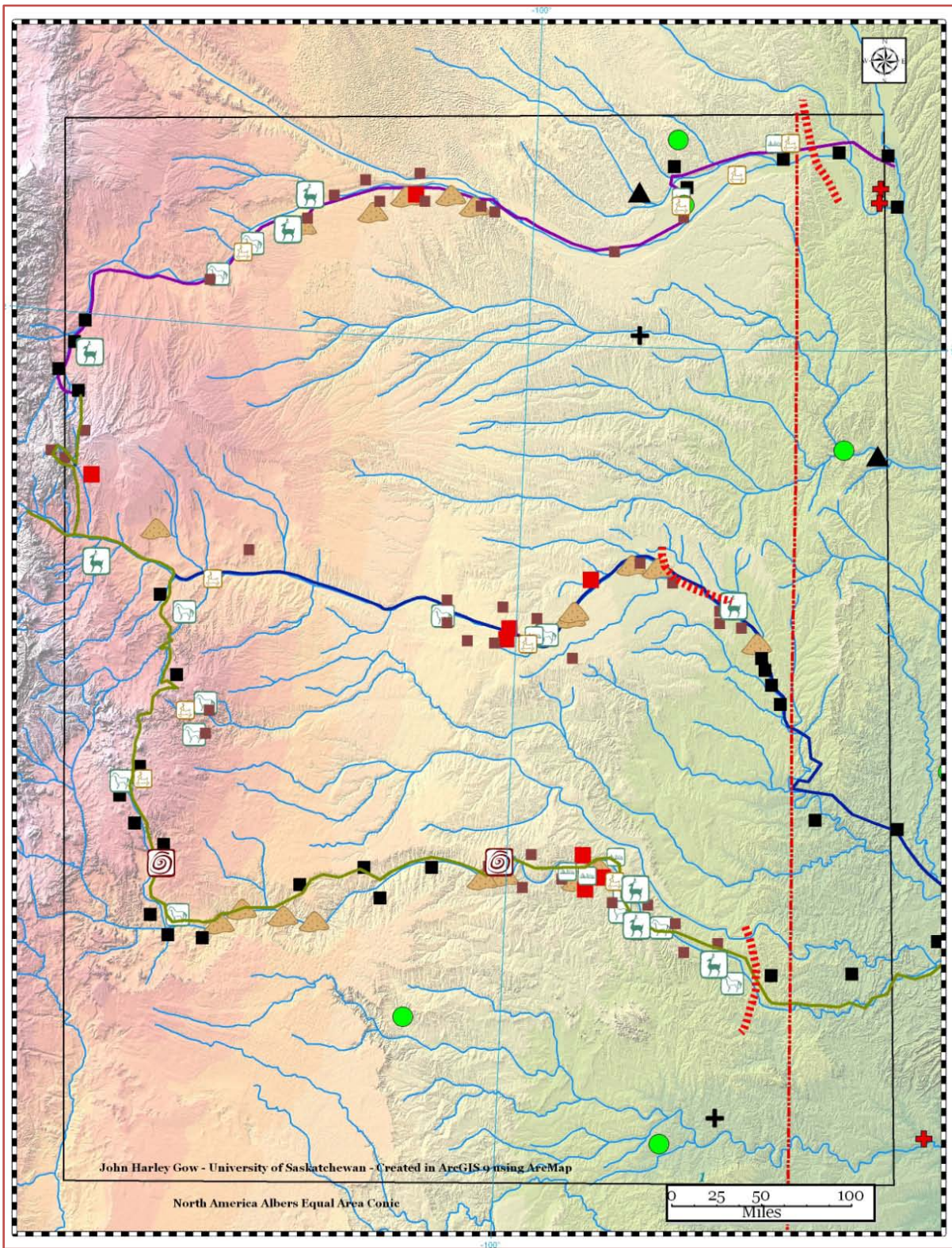


Figure 10.17. Long Environmental (Legend below).



That Long and company circumnavigated such a vast area (270,000 sq.mi.) of the Great Plains in one season means that they give a unique perspective of the Study Area. Botanists, geologists, and other specialists have made good use of the Long records, but no one has mapped and analyzed that region from an environmental history perspective. The scale of the enterprise combined with its geographical specificity and catholic attribute data affords macro scale analytics unmatched by any other source on the Southern Great Plains. The Long Expedition presents an 1820 historical snapshot of the region one ‘moment’ before those Plains were changed irrevocably by incoming settlement.

The Long Expedition passed through a great number of environmental provinces throughout their travels, and did a very poor job of reporting the particulars. Still, it is possible to work out some major changes, such as when they passed to or from tall and short grass regimes. For the first time sketches and paintings accompanied an argonaut text. Long spent perhaps ninety five per cent of his time west of the Missouri on short grass plains. This was an integral part of his description of the Southern Plains in its entirety as a desert plain. Only in the last few days as he fought through tall grass and river oxbows on the lower Arkansas did he encounter tall grass prairie. He was happy to see it as he knew he was nearing ‘home’. Compounding his happiness was that he had just passed through the richest “region of game” he encountered on the entire trek, in the midst of sand dunes and scrub groundcover. Bell, on the other hand, passed from a zone of short grass plentitude of hoofed protein to fight his way through tall grass for the last fifteen percent of his travels and did not enjoy the experience. It took Bell twenty-seven days to cover the last 300 miles of his trek down the Arkansas, a third of his rate of travel on the plains. He was also starving for much of that time due to the lack of accessible game. Deserts were the last thing on Bell’s mind when he staggered out of the interminable rains to shelter at Fort Smith.

In 1820 it was nearly impossible to find a region of tall grass not associated with hardwood species such as elms and walnuts. On the Platte, the tree line was on the east shore of the Missouri. Once they crossed the Missouri they entered the short grass plains, with scattered cottonwoods the only tree. The Platte River valley was well-used by resident Missouri, Otto, and Pawnee groups, for there was barely a tree to be found between the Missouri and the foothills. Even the islands of the Platte were de-forested in contrast to the Arkansas. This was a result of hundreds of years of Pawnee agricultural occupation and a long century's worth of increasingly heavy horse grazing. The combination of agriculture and intensive horse raiding had driven away any resident bison population. No animals were found until 120 miles from the Missouri, and then but a few bulls.

Past the Pawnee towns the Platte valley was not only unpopulated by humans but the site of many violent exchanges. They found human skulls along with those of bison, and the Pawnee identified sites of recent battles. At this frontier, as expected from previous models, they began to encounter great numbers of wildlife, pronghorn, elk, and bison, including some cows. From their descriptions and excellent graphics all of the sources make clear they never encountered a great massed herd of bison anywhere on the plains. The large numbers they refer to are always depicted as streams of animals as opposed to great masses. Long having no sense of irony, no one noted that what herds they did observe were in conjunction with sand dunes and hills on the Platte and Canadian.

The length and breadth of Long's travels provide a very good impression of mustang populations and locations in 1820. Around 103°W on the Platte they found the first gangs of mustangs. There were no horses running free east of this point. On the Arkansas some gangs of horses were found at the lower Great Bend, precisely where Pike had found them in 1806. No feral horses were seen below that point on the Arkansas. Mustangs had spread no further east on the Arkansas than they had been in Pike's day. Long reported some small numbers of mustangs along the upper Canadian plains. Only on the Canadian were the animals found east of 100°W, and there they were found almost to the hardwood tree line at 9730'. I suspect the animals were found on river valleys between the Canadian and the Arkansas. Horses were only found in proximity to running water, and on the short grass plains and steppes. They shunned tall grass prairies as completely as did bison cows. Feral horses were found in close conjunction with elk

and pronghorn and often bison. They preferred mixed grass riparian grazing as opposed to the bison's obvious preference for short grasses.

Long supplies the best evidence countering what we think of as an intermediate mixed grass regime between the tall grass prairie and the short grass steppes. The plains had a short grass regime to 1820 maintained by climate, ungulate grazing, and natural fire. Perhaps human fire as well, although that practice was never reported to 1820. Mixed grass regimes were limited to riparian courses and those with year-round flow, probably comprising no more than 2-3 percent of the plains. This grass regime was a primary cause of Long's desert designation.

As far as caught horses, James provided the most interesting observations, set down at the Grand Pawnee:

On approach of winter [the Pawnee] conceal their stores of corn, dry pumpkins, beans, &c. and with their whole retinue of dogs and horses desert their villages. This they are compelled to do from the want of wood, not only for fuel, but for the support of their [6-8,000] horses.

They encamp in their lodges of skin wherever the cotton wood is found in sufficient quantities for their horses, and game for themselves. The horses in the country bordering the Missouri are fed during the winter in the extensive wooded bottoms of that river, and are not therefore confined exclusively to the cotton wood, having access to other timber [and] rushes and coarse grass which abound in the bottoms. [...] the Indian horses farther to the west about the upper branches of the Platte and Arkansa subsist and thrive during the winter with no other article of food than the bark and branches of the cotton wood.¹⁶⁹

Wooded valleys along the Missouri were becoming increasingly valuable as the Indian horse era wore on. The customary valleys of Pawnee habitation were denuded of the necessary cottonwoods by 1820. This, as much as Comanche/Snake aggression, had caused the Pawnee to abandon the Republican; it could no longer support their horse and agriculture life way. In the 1820s the Pawnee began moving north and abandoned the Platte as horse grazing 'wore out' their traditional agricultural lands. The Osage better maintained a balance between horses and agriculture, perhaps due in part to their being completely hemmed into their core territory by 1820. Their culture was not as mobile as the Comanche, Taovaya, or even Pawnee, being more reliant upon agriculture. Agriculture and large horse herds were mutually incompatible. They did not possess great herds of horses, although they appear to have still been a relatively wealthy

¹⁶⁹ James (1966 [1823]): V.1, 445/6. I took the liberty of removing *fifteen* commas from this passage. Connoisseurs of the comma may well enjoy the original text.

group. The Taovaya had in 1820 abandoned Quich, driven back onto the Brazos by Osage aggression and other factors. The Jumano/Quivira/Taovaya had undergone yet another ethnogenesis in falling in with the Tawakoni.

Since 1806 the sheer numbers of caught horses held by the mobile plains groups had increased exponentially. It is hard to judge the Pawnee numbers as they had coalesced into one site. Perhaps the merging of the three distinct groups kept them from increasing their numbers of caught horses. The Republican Pawnee had fallen far in terms of status and wealth. A pedestrian Republican group was driven off by a horsed and firearm-carrying Kansa group. Given their favorable trade situation, the Pawnee should have been as well armed as the Osage or Kansa, but this was not so. Mobile groups such as the Comanche had very few firearms. This was not through lack of access to traders as they still had access to English and American traders. They instead preferred not to have them firearms. Generally speaking, the ratios of horses and firearms to fighting men in the Study Area had not much changed since Pike.

What really stands out in Long is not the numbers of horses or firearms but rather the lack of human population. The existing population would be further reduced in American public perception by Long's published legacy. The very fact that Long's desert was couched in scientific and rational terms gave it a weight in the minds of some writers and politicians; what sort of population could live on a desert? As John Rennie Short noted, Long's textual and cartographic encounters with the Study Area, with its "rational emphasis on science and nationalism, measurement and appropriation ignores, downplays, or miscasts the role played by indigenous peoples."¹⁷⁰

¹⁷⁰ Short (2009): 69.

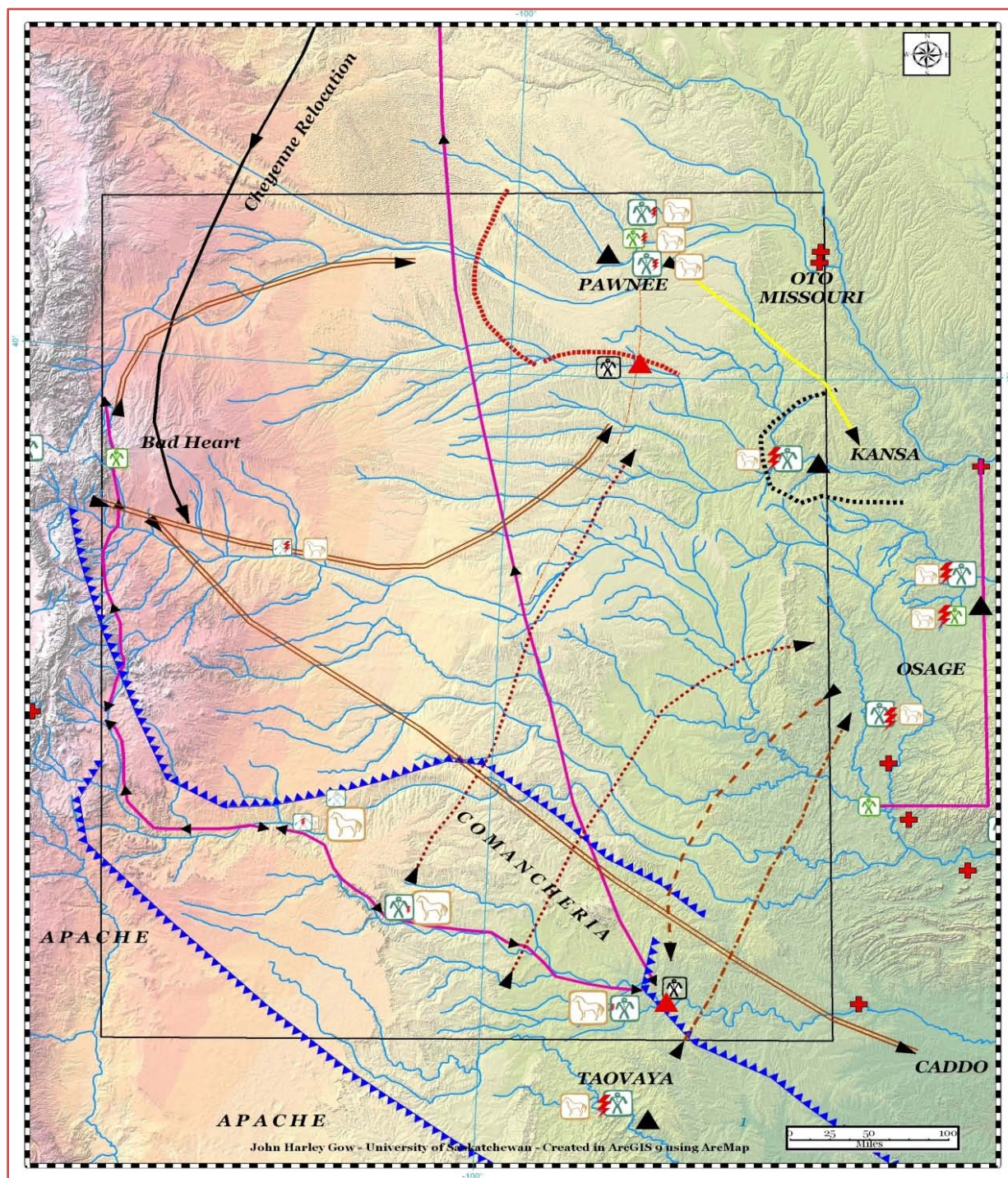
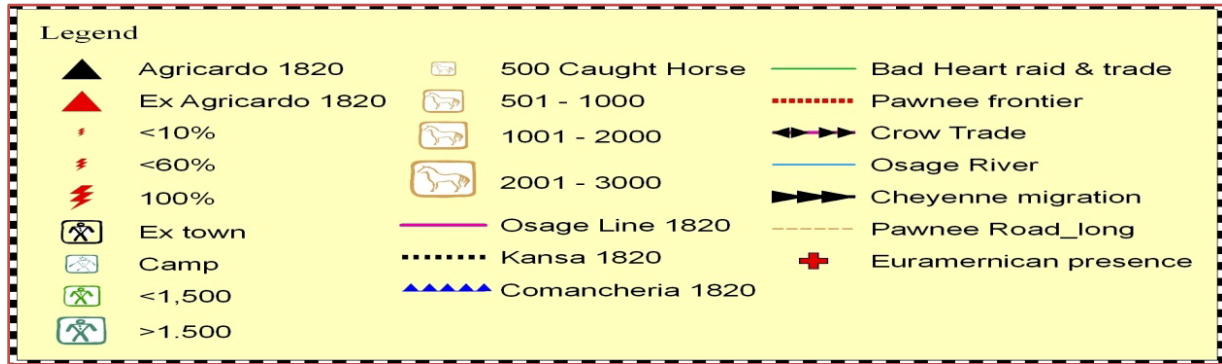


Figure 10.18. Human Presence, 1820 (Legend, below).



It was not just aboriginals who were thin on ground in the the Study Area in 1820. Long traversed the Plains three times without having any contact with the Spanish. This was a remarkable sea change since the experiences of the Jeffersonian argonauts, all of whom but for Lewis and Clark were either repelled from or arrested by the Spanish presence, and they had attracted a Spanish military force that failed to find them. The only indication Long had of Spanish presence was through the Comanche who were making for a trade fair with the Spanish in August on the Canadian. This was a sign of Spanish persistence in New Mexico as traders but not as a political-military force. Indian Agent John Sibley reported that in 1811 connections between Spanish officialdom and the Pawnee ceased “because of the distance.”¹⁷¹ Long avoided the Spanish by declining to find and descend the Red, but his fears were testament to the Spanish reputation and not reality in 1820. Had Long dared to track to and descend the Mora River, he may well have found himself knee-deep in New Mexican sheep which numbered some two million by the 1820s and were pressing onto “the rich open *vegas* or pastures”¹⁷² by then cleared of settled aboriginal presence. The opening of the *Santa Fe Trail* would finally spur Mexican colonization towards the Study Area. The steppe towns of Mora, Las Vegas, Anton Chico, and many others would take hold along the Pecos in the 1830s.¹⁷³

Long provides solid evidence for the downfall of the agricardo system in the Study Area by 1820. First, he found defunct agricardos at the Republican Pawnee, and the Taovaya. The

¹⁷¹ Charles L. Kenner. *The Comanchero Frontier: A History of New Mexican-Plains Indian Relations*. (Norman: University of Oklahoma Press, 1994[1969]): 68.

¹⁷² John Miller Morris. *El Llano Estacado: Exploration and Imagination on the High Plains of Texas and New Mexico, 1536-1860*. (Austin: Texas State Historical Association, 2003[1997]): 183. Morris,

¹⁷³ Morris (2003[1997]): 184, map at 185. Also, Kenner (1994[1969]): 65. New Mexicans also exported large quantities of sheep products south to Chihuahua.

central plains between from the Platte River to below the Red River were for the first time without agricardos. The expeditionaries found mobile groups of Indians, often composed of remnant or detached roaming groups such as the Snakes, Comanche, Bad Hearts, et cetera. None were found in anything approaching even semi-permanent sites. These groups were involved in raiding sorties or post raid trading trips. Increasingly, trading trips aimed for euramerican temporary sites or distant agricardos such as the Mandan. Since all the non-agricardo Plains groups were at war with all the Study Area agricardo groups, trade between agricardos and mobile groups had ceased. Mobile groups now skirted the former Indian middlemen to trade directly with euramericans, travelling extraordinary distances of up to 1,000 miles for the privilege. The agricardos were effectively cut off from upstream fur trade as well as mutually beneficial trade of any sort with mobile groups to the west.

No other argonaut gave such an impression of vacant, meaning unpopulated space, as did the Long Expedition. As had Pike, Long crossed the Plains not twice but three times without seeing the Comanche.¹⁷⁴ Where were they? Other sources showed the Comanche still avoided the Llano, they never penetrated to the eastern Red and were now increasingly pressed from the south by expanding euramerican pressure. Certainly they raided into Mexico and cause havoc with settled euramericans, but women and children did not go on raids. I now believe that all estimates of Comanche population were seriously overblown. Perhaps the Comanche numbered some 10,000 in 1820, rather than the 20-30,000 suggested by Pekka Hämäläinen.¹⁷⁵

¹⁷⁴ Pike did in fact meet a Comanche individual around San Antonio while being escorted home under arms.

¹⁷⁵ Hämäläinen, *Comanche Empire* (2008): 179.

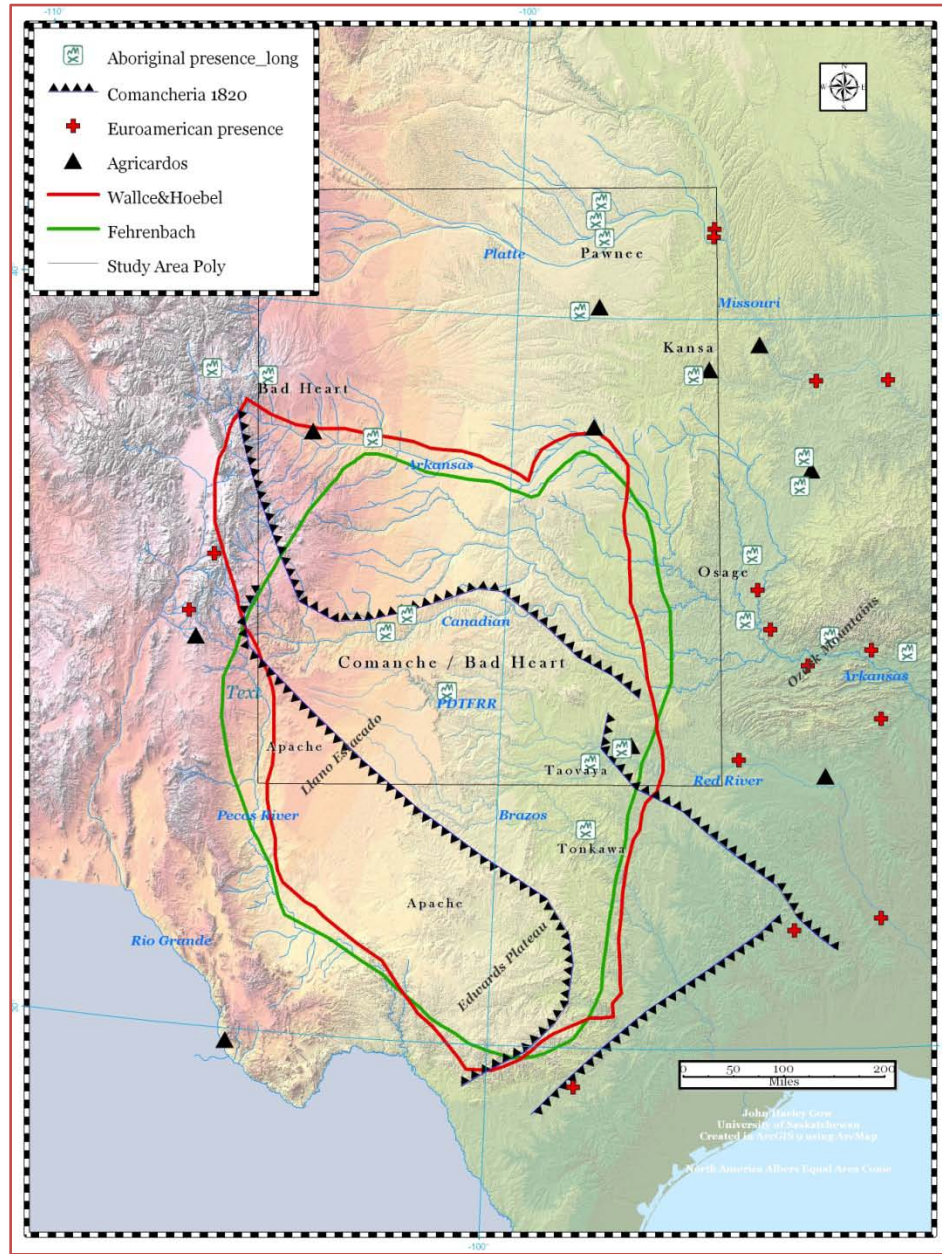


Figure 10.19. Comanchería 1820.¹⁷⁶

The Long Expedition did not coin and never used the term “Great American Desert.” The journals did use the term “great desert” in a few places. Below is a crop of the manuscript

¹⁷⁶ The polygons ‘Wallace&Hoebel’, and ‘Fehrenbach’ were digitized from Ernest Wallace, and E. Adamson Hoebel. *The Comanches: Lords of the South Plains*. Norman OK: Red River Books, 1986[1952]; and, T. R. Fehrenbach. *Comanches: The History of a People*. New York: Anchor Books, 2003[1974].

version of the map that appeared in *Account of An Expedition* (1823). Following that is a crop from the first atlas to include the Long map, the Carey Atlas of 1822, the first iteration of the map for public consumption.

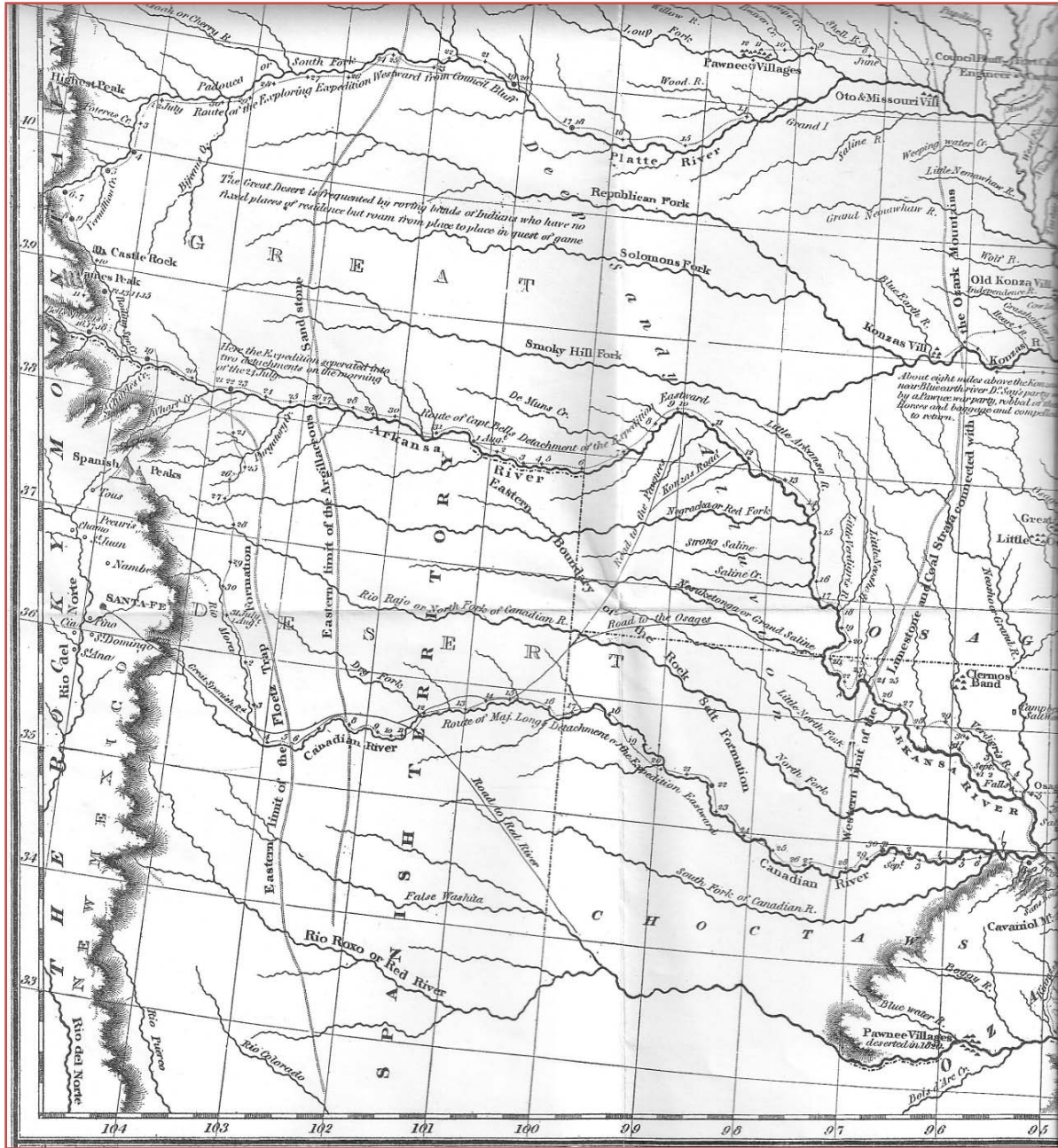


Figure 10.20. Long's "Great Desert." James, Edwin. *Account of an Expedition from Pittsburgh to the Rocky Mountains, Performed in the years 1819 and '20*. 2 volumes Philadelphia: Carey & Lea, 1823.

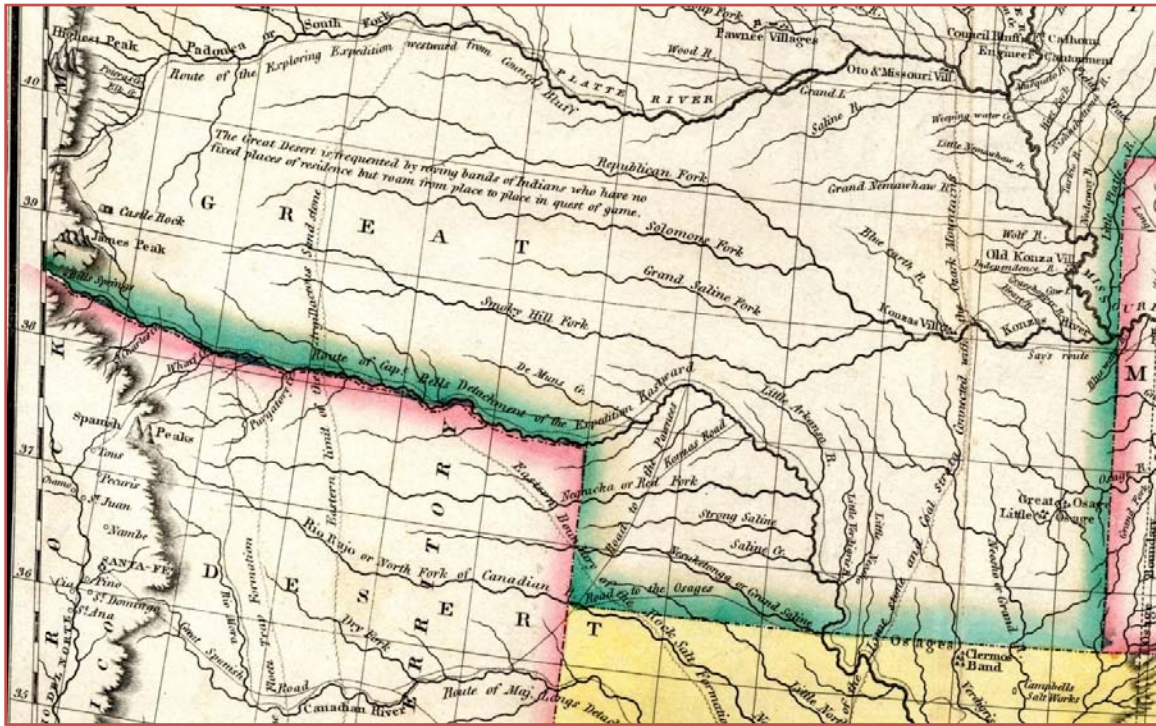


Figure 10.21. Carey Atlas Desert, 1822. Henry Charles Carey.” Map of Arkansas and other territories of the United States.” Plate 35. *A Complete Historical, Chronological and Geographical American Atlas*. Philadelphia: Young & Delker, 1822. Courtesy of the Map Room, Regenstein Library, University of Chicago.

Long’s definition of the “Great Desert” had both a specific location, and a scientific explanation. The Great Desert was a geological province roughly coequal to the foothills and steppes of the Rocky Mountains in the region surveyed, meaning from the Platte to the Canadian. Long presumed this desert extended both to the north and south. From the mountains, the desert extended eastward to the second iteration of the Arkansas, meaning its southern sweep about 98° west longitude. This meant, roughly speaking, that all the flatlands or plains were desert, as the desert ceased at the “Extensive plains with broad swells” or hills east of the Arkansas/Missouri. From the map what *made* the desert was “Extensive Plains with insulated tracts of high table lands.” At first blush this would seem to mean ‘where buttes were found’, but I think can be taken to mean where rivers and streams—including the mysterious dry streams—existed, and that means the Great Plains. Followed northwards this ‘imaginary line’ would include the Pawnee towns on the Platte.

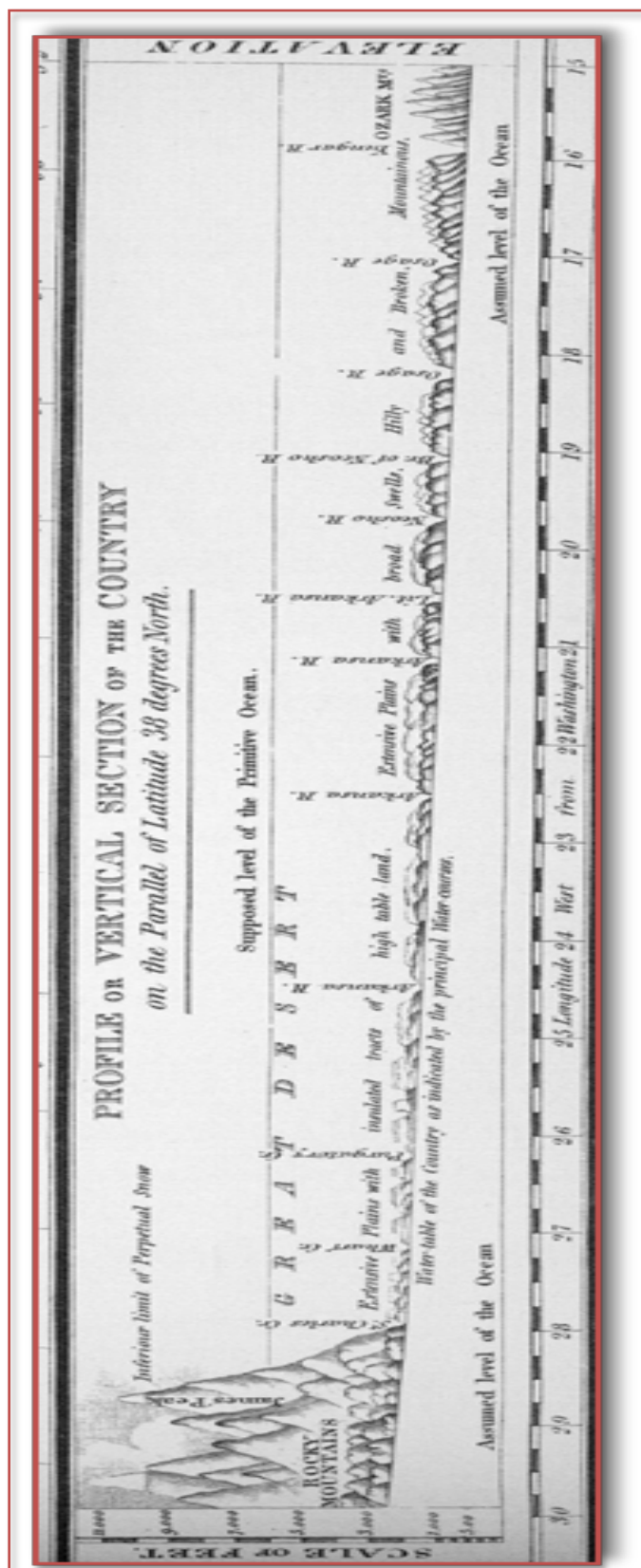


Figure 10.22. Long Profile.

Long also provides a textual clue as to his meaning of desert. “The Great Desert is frequented by roving bands of Indians who have no fixed place of residence but roam from place to place in quest of game”: the French concept of desert lived on. Long’s original map had “Great Desert” and not “Great American Desert” imposed upon it. The “American” part began appearing on maps sometime in the 1820s. This development could be tracked to increased American expansionism, jingoism, and the lust to incorporate New Spain into the United States; the subject matter of other studies. American map-makers had a long tradition of superimposing “deserts” upon the various *terra incognitas* that graced early European maps; Long did not create that tradition. But it can be argued Long was the first argonaut to put a great desert on the map who had actually visited the place so condemned. This gave Long’s desert signifier, American or not, a scientific gravitas that carried some weight with atlas publishers. More importantly, it gave the desert a specific home and a scientific definition: “extensive plains with insulated tracts of high table lands,” or the Great Plains. Only time would tell if that desert would disappear in the face of settlement just as deserts had disappeared from Ohio country following the necessary extirpation of large herds of wild ungulates and the Indian who hunted them.

Finally, a careful examination of Long’s map proves that Americans still did not know how the southern limits of the Study Area worked in 1820. The streams between the Canadian and the Arkansas were fairly figured. However, as Long thought he had descended the Mora he misplaced the route of the Canadian, having it ascend to the doorsteps of Santa Fe; the Pecos then disappears. Further, the course of the Red was fairly well guessed at, but still not familiar. They had given up on the idea of the Red heading near the Arkansas and Platte, a major advance in cartography, and now had it heading on the Llano. That the False Washita is shown heading on the Llano and the ex Taovaya town shown sheltered by the Ozarks shows the final mapping was still, incredibly, a few decades away. Such was the power of that “awful” great place.

CHAPTER 11

A Persistent Mirage.

This chapter brings to conclusion the several narratives that developed from asking a two-part question. How, when, and why did the Southern Great Plains become branded a desert in such a convincing fashion that many thoughtful persons cling to that image today? Secondly, what was the *real* place like and how did it work environmentally and culturally?

The Great American Desert was never in historical time an environmental desert, but is rather a cultural desert, an intellectual mirage, that has occluded a vast complex of bioregions and the people who thrived upon them. The desert myth was created out of biblical imagery and European concerns about frontiers. To the first euramericans, the desert was a swamp, a forest, or rich grasslands just beyond the pale. Once inland from the Atlantic coast, desert came to have a specific cultural meaning; 'a place where wild Indians chased wild animals.' The word had no specific environmental meaning throughout the period from 1534 to 1820.

This imagery was restricted to French and English imaginations; the Spanish apparently had no need for metaphorical deserts. Spanish maps and documents projected fictitious passages to the East, imaginary inland seas and mountain chains, and vast unknown regions, but never a desert. Of the three euramerican groups surveyed, only the Spanish through their experiences in North Africa and South and Central America, had any experience of environmental deserts before viewing the Great Plains. The only time a Spaniard used the term desert to refer to lands beyond the Rio Grande it was Coronado's scribe. There is no possibility that this Spanish record entered the consciousness of Americans as it did not reach the public until Winship's 1896 publication. The Spanish did not create the myth of the Great American Desert.

It was not until the Jeffersonian expeditions that 'desert' and the Great Plains became conjoined in anyone's mind. Alexander von Humboldt may have coined the latter term. Lewis and Clark (1805-07) and Zebulon Pike (1806-07) established that the Plains were different enough to pose difficulties to agricultural settlement. There were no trees and many groups of dangerous Indians. Pike and the southern argonauts also proved that the Spanish were a force to be reckoned with despite Jefferson's purchase of Louisiana. It was not until the Stephen Long

Expedition of 1820 that anyone offered a ‘scientific’ description of the TransMississippi West as a “great desert”. Close readers of that expedition’s records would have been convinced that the desert actually started where the French map-makers had left it, on the tall grass prairies *east* of the Mississippi.

During the course of researching this GIS driven history both environmental and textual deserts began to take a back seat to another story submerged in the primary sources. The Southern Plains was a vast and complex place where aboriginal groups supported large settlements with extensive agriculture and hunting. Trade networks linked major sites I termed *agricardos*. *Agricardos* attracted euramerican argonauts with the promise of grown food and potential for acquiring wealth. Even when the dream of finding golden plates faded, the *agricardos* still drew traders and hopeful euramerican explorers, and much later, settlers. Before summing up the *agricardo* network, environmental region and the people who lived in it, I offer a brief discussion of the textual desert *idée*.

That many believe the first euramericans to view the Great Plains thought the place a desert is reflected in Walter Prescott Webb’s statement that “Coronado laid the foundation of the idea of the Great American Desert.”¹ By digging into Coronado’s records and those of Spaniards who would have influenced him, this study has shown that Coronado cannot be given credit for any such foundation. Coronado did however reveal the nature of the Study Area, drawn as he was to the Quiviran *agricardo* by its reputation among Plains dwellers. On the way there he found another *agricardo*, that of the Jumano, which he looted. Once at the Quiviran *agricardo* Coronado found “beautiful pasture lands of excellent grass” and a large population fully capable of terminating his further exploratory aspirations.² To reach those pastures, which he could not conquer, he “walked seventy-seven days through those deserts”.³ This is the only iteration of the term *desierto* in the entire corpus of the Spanish sources examined herein. This one word is the sole basis for the school of thought that credits Spanish exploration with creating the legend of the Great American Desert. No Spanish argonaut before or after Coronado used that term to describe the Great Plains and its occupants. Neither did they use the term

¹ Webb (1981[1931]): 153.

² Vazquez de Coronado (October 20, 1541): 319.

³ Vazquez de Coronado (October 20, 1541): 324.

despoblado once above the middle Pecos River. The Spanish did not then consider the Southern Plains to be either a great environmental desert or an unpopulated place. Certainly within that vast region they found dunes along the Canadian, unremarked pocket deserts on the upper Rio Grande, and austere stretches of bison plains, but nowhere did they find or report a great desert north of Mexico and east of the Rocky Mountains. Similarly, Bourgmont never used desert to describe the lands he viewed in 1724, although the French used the term to describe the very conjunction of elements then understood to constitute a desert: wild Indians chasing wild animals on open grasslands. Unlike Spanish maps, French maps depicted deserts on grasslands and woodlands that had not been settled by euramericans.

With the advent of American exploration the desert notion hit the ground in the TransMississippi West. Lewis and Clark established that there was a great plain devoid of trees, and tall grasses along the Missouri. They used the desert term sporadically, particularly in the Black Hills, but they had no particular environmental or scientific meaning of the word. Jefferson's argonauts on the Ouachita and Red Rivers, Dunbar & Hunter, and Freeman & Custis, never used the desert term or concept but rather reported lands still firmly in aboriginal and Spanish hands. Zebulon Pike reported "happy plains" on the tall-grass prairie, otherwise never reported a desert even though he passed a pocket desert. Pike would later sum up the entire TransMississippi West from the 48th parallel to the Gulf, and from the Mississippi to the Pacific, as

barren soil, parched and dried up for eight months in the year, presents neither moisture nor nutrition sufficient to nourish the timber. These vast plains of the western hemisphere, may become in time equally celebrated as the sandy deserts of Africa.⁴

As Waldo Wedel wrote, Pike had in common with Long and other American argonauts who followed, "disdain for the western prairies and plains [and an] easterner's thinking about the grasslands" that would dominate argonaut impressions and reportage "for many years to come."⁵

Contrary to Webb's argument, it was the Stephen Long Expedition of 1820 and the resulting texts and maps that bestowed the signifier Great American Desert on the Southern

⁴ Zebulon Montgomery Pike, *The Expeditions of Zebulon Montgomery Pike, to the Headwaters of the Mississippi River, through Louisiana Territory, and in New Spain, During the Years 1805-6-7*, ed. Elliot Coues. 2 vols. Minneapolis: Ross & Haines, 1965 [1810].

⁵ Waldo R. Wedel, "Some Early Euro-American Precepts of the Great Plains and Their Influence on Anthropological Thinking," in *Images of the Plains: The Role of Human Nature in Settlement*, ed. Brian W. Blouet and Merlin P. Lawson, (Lincoln: University of Nebraska Press, 1975): 15.

Great Plains. To explain his desert signifier, Long provided an illustration of elevations that explained the 'great desert' in terms of altitude which corresponded exactly with the Great Plains. That definition encompassed great swathes of tall grass prairie and many other biomes. Those notions held in some circles until they were thoroughly disabused by the experiences of the overland immigrants of the 1850s who drowned in the hundreds while crossing the Plains,⁶ and found the purported GAD lands "too fertile [and possessing] too many inducements for settlement to remain in the possession of Indian forever."⁷ The myth of the Desert somewhat receded until the 1930s Dust Bowl, excepting in the world views of anthropologists,⁸ and other writers.

Perhaps the father of the Frontier Thesis was a believer in the GAD? Frederick Jackson Turner did not see a great desert because he thought of successive waves of settlement, of which the agricultural was but one. "The existence of an area of free land, its continuous recession, and the advance of American settlement westward, explain American development",⁹ he wrote in 1894. A close examination of Turner's famous thesis reveals that where others saw deserts either of savagery or the unknown, Turner saw frontiers of opportunity. Precisely where the Pilgrims posited swampy deserts, Turner saw the "first frontier...the Atlantic coast."¹⁰ His essay then moved the frontier in lockstep with where other writers saw deserts, moving westward as "successive terminal moraines result[ing] from successive glaciations", from the seacoast to the Ohio valley (the French desert), on to the "settlement of the Great Plains", the fur and mining frontiers, and thence to the Pacific. Rather than deserts or limiting obstacles environmental or cultural, Turner saw "fall lines" or "natural boundary lines which have served to mark and to affect the characteristics of the frontiers," including the Alleghenies, the Mississippi, and the

⁶ John D. Unruh, Jr., *The Plains Across: The Overland Immigrants and the Trans-Mississippi West, 1840-60* (Urbana: University of Chicago Press, 1979): 409.

⁷ Jasper Morris Hixson, "Diary, 1849," quoted in Unruh (1979): 399.

⁸ Wedel (1975): 15. After the 1850s the Great Plains "was never again to be thought of as a vast, useless, and unbroken desert...[e]xcepting, we may suggest, by the anthropologists."

⁹ Frederick Jackson Turner, "The Significance of the Frontier in American History," 31-60. John Mack Faragher, ed., *Rereading Frederick Jackson Turner: 'The Significance of the Frontier in American History,' and Other Essays*, (New York: Henry Holt and Company, 1994[1894]): 31.

¹⁰ Turner (1894): 34.

“arid lands, approximately the ninety-ninth meridian[.]”¹¹ The only occasion when Turner used the term desert, I believe, was in noting that the American East:

always feared the result of an unregulated advance of the frontier, and...tried to check and guide it. The English authorities would have checked settlement at the headwaters of the Atlantic tributaries and allowed the “savages to enjoy their deserts in quiet lest the peltry trade should decrease.” This called out Burke’s splendid protest:

If you stopped your grants, what would be the consequence? The people would occupy without grants. They have already so occupied in many places. You cannot station garrisons in every part of these deserts.¹²

Turner’s writing indicates that the conception of *desert* in his day, as it had been in Burke’s, Pike’s, and Long’s, was a cultural construction, not an environmental one.

Not to be left out, Canadians embraced the GAD notion as settlement pressed upon the Northern Plains in the 1850s. British efforts under John Palliser and the Canadian expedition under Henry Youle Hind explored and soil mapped the plains, which Palliser found to have “poor soil, scanty herbage, and no wood except on moist northern exposures.” James Richtik wrote that Palliser’s “negative reaction to the plains was a result of his awareness of the ‘Great American Desert’ to the South.” Palliser noted that as bad as the Canadian Plains were, they did not match “the great expanses of true desert that exist farther to the south.”¹³ As in the US, such pronouncements likely restricted but never stopped the flow of nesters from the East to the GAD in search of farmland.

Clark Wissler originally believed, because of his perception of the Plains as an arid desert, that the place was unpopulated but for the Kiowa before the arrival of the horse, and that all Plains groups were post-horse immigrants.¹⁴ Wissler’s rational belief in 1908 was based on histories and oral aboriginal testimonies, and the lack of any archaeological knowledge to the contrary. Wissler changed his opinion over time as his own work progressed. By 1948 he wrote that some groups had practiced horticulture pre-horse, but that they were essentially nomads who

¹¹ Jackson (1894): 36.

¹² Jackson (1894): 56.

¹³ James M. Richtik, “Mapping the Quality of Land for Agriculture in Western Canada,” 161-171. Frederick C. Luebeke, et al, eds. *Mapping the North American Plains: Essays in the History of Cartography*, (Norman: University of Oklahoma Press, 1987): 162-3.

¹⁴ “With one exception (Kiowa) all the tribes residing there [on the Plains, essentially] can be satisfactorily traced...to beyond its borders...in the historical period,” Clark Wissler, “Ethnographical Problems of the Missouri Saskatchewan Area,” 197-207. *American Anthropologist* (10:2, 1908): 198, 201.

“only while planting, tending, or harvesting their crop” lived in lodges.¹⁵ The Myth of the Great American Desert influenced later writers as well.

Walter Prescott Webb’s 1931 *The Great Plains* was instrumental to maintaining and strengthening the GAD myth.¹⁶ Webb thought of the Great Plains as a “natural boundary,” and a formidable one at that. His study area was the “Great Plains Environment,” by which he meant the arid, flat, and treeless lands. As such, his region included not just the Central Plains but Illinois, Wisconsin to the Ohio River, the entire Southwest, the Rocky Mountains, and et cetera, although he focused on the central plains that embodied all three characteristics. Because he was an American exceptionalist, Webb’s region ended at the 49th parallel. Webb was a proponent of the GAD, which he defined as beginning at 98°.

Standing on 98° at the 31st parallel, now downtown *Madisonville TX*, and gazing north one would see before 1800:

on the right the forested and well-watered country and on the left side the arid, treeless plain. On the right we see a nation of people coming slowly but persistently through the forests, felling trees, building cabins, making fences, digging shallow wells...advancing shoulder to shoulder, pushing the natives westward toward the open country. They are nearing the Plains....Then, in the [early 1800s] we see the advance guard of this moving host of forest homemakers emerge into this new environment, where there are no forests [et cetera]. Before them is a wide land *infested by a fierce breed of Indians, mounted, ferocious, unconquerable, terrible in their mercilessness... a human barrier of untamed savagery.*¹⁷

We all know how that played out. Despite the lack of trees those “forest homemakers” proved themselves up to the task of eradicating that infestation, as soon as they had mastered “a technique of pioneering adapted to the Plains rather than the woodland.”¹⁸ Americans may have been doing the Indian a favor as their existence had been poor indeed “in this desolation,” given they “had no agriculture” and the land grew “little or no wild fruit and no nuts.”¹⁹ This environment would also defeat the Spaniard, who only succeeded in making the “Plains Indians...more powerful, far richer, and in control of more territory than they were at the

¹⁵ Wissler, quoted by W. Raymond Wood, ed. *Archaeology On the Great Plain*, (Lawrence: University of Kansas Press, 1998): 5.

¹⁶ Walter Prescott Web, *The Great Plains*, (Boston: Ginn and Company, 1931).

¹⁷ Webb (1931): 141. Italics, mine.

¹⁸ Webb (1931): 141.

¹⁹ Webb (1931): 53.

beginning of” the Spanish enterprise.²⁰ It would take “another race” to deal with the problems of “subduing them,” the Plains Indians, and it, the Great American Desert.

Webb discussed both Lewis & Clark and Pike, but credited Long’s map with making:

the Great American Desert... a reality to the American mind [although] it would be a mistake to assume, as some historians do, that Long was the discoverer...he merely reënforced the reports of others and mapped out somewhat definitely the idea of the American desert that had become general.”²¹

Webb wrote that the “popular concept of the desert had existed in the written records for two hundred and eighty years before” Long’s expedition, meaning Coronado’s record. While assigning all the attributes of an exceptional place to the Plains, Webb wrote the “fiction of the [GAD] was founded by the first explorers, was confirmed by scientific investigators and military reports, and was popularized by travelers and newspapers.”²² Webb then wrote for many pages about the GAD “fiction” and its formative influence. Webb and many other writers sensibly disavowed the existence of an environmental desert while subconsciously writing as if it existed.

For instance, Alfred Kroeber asked in 1939, how could “any good-sized group have lived permanently off the bison on the open plains while they and their dogs were dragging their dwellings, furniture, provisions, and children?”²³ Francis Haines wrote in *The Plains Indian* that as late as 1200 CE “there were no Indians anywhere on the Great Plains,” and proved it by drawing the words on a map titled “The Empty Plains A.D. 1200.” The Empty Quarter looks suspiciously like a GAD stretched into Canada. Haines maintained that even though the Wichita (Quivirans) and Pawnee were separated by only 200 miles, and that the two groups had similar agricultural lifeways, including lodges and agricultural modes, they arrived at the same ends as a result of:

living in a similar environment and raising the same crops, rather than any actual copying, for the two were separated by too great an expanse of untraveled Plains to have achieved any significant exchange of culture items, and in *their new homes* had to adjust to conditions differing from those they had known in their old homes[.]²⁴

²⁰ Webb (1931): 138.

²¹ Webb (1931): 147.

²² Webb (1931): 153.

²³ A. L. Kroeber. *Cultural and Natural Areas of Native North America* (Berkeley: University of California Press, 1963[1939]): 75ff.

²⁴ Haines (1976): 23. Emphasis mine. It is impossible to winkle what Haines means by ‘new’ from his text, apart from placing it between A.D 1200 and “sometime after 1600.”

Dismantling his own argument in the same page Haines noted the Wichita “roamed far and wide across the Plains in all directions from their new home,” including maintaining ties with the Pueblo, four hundred miles away. This bizarre argument stems from structuralist anthropological thinking combined with the surety that the Plains were a great cultural desert.

As W. R. Wood wrote, writers who contemplated the peopling of the Great Plains:

imposed their own environmental preconceptions of the area on its occupants, and found it so difficult to believe that the area was habitable before the appearance of horses that they ignored sound archaeological evidence for its long-standing occupation.²⁵

In 1966, Eugene Hollon took the GAD westward from the Great Plains over the Rocky Mountains to its “natural” location with the publication of *The Great American Desert; Then and Now*.²⁶ While making his case that the environmental desert was essentially synonymous with the Mountain West, Hollon was however reluctant to relinquish the desert claim for the Great Plains west of the Missouri River. The author overcame this problem by labeling the Mountain West the GAD, and the Great Plains as the region of “desert influence”. The two regions tended to conflate into one great desert in both the author’s text and the book’s maps, however (Fig.11.1). Part of the reason for this confusion rests in Professor Hollon’s reluctance or refusal to commit to a definition of the term, ‘desert.’

²⁵ Wood (1998): 5.

²⁶ Hollon, W. Eugene, *The Great American Desert; Then and Now*, (New York: Oxford University Press, 1966.)

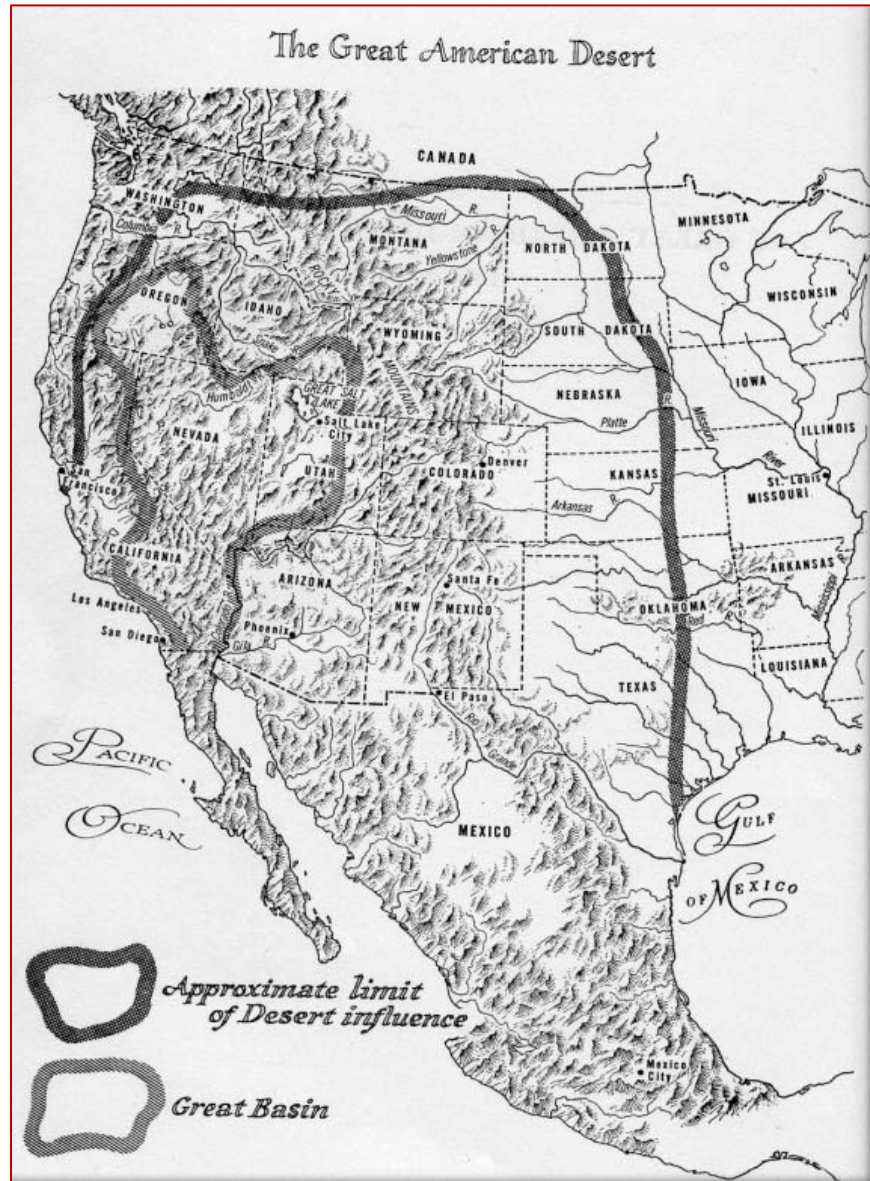


Figure 11.1. Hollon's Desert Influence. Hollon (1966): 2, 198. Hollon credited his typist, but not his skilled mapmaker.

Hollon's cultural biases are evident a third of the way into the book in a chapter titled "The First Exploiters." True cultural exploitation only commenced, according to Hollon, with "a new breed of men," who were of course, Americans (71). Typically, those accorded the honor of being this "new breed" were

the trappers who followed in the wake of Lewis and Clark and Zebulon Montgomery Pike. Their mission was not to collect scientific data or produce more accurate maps, but to exploit the four-legged wealth.²⁷

This of course diminishes all aboriginal efforts, but also those of the French and Spanish, at exploiting the GAD from the earlier record. The sources evaluated herein clearly established three centuries worth of historical human exploitation of the Study Area prior to Lewis and Clark. Hollon very briefly discusses both “The Original Occupants” and “The White Man’s Arrival” in twenty-some pages of text before devoting the next two hundred pages to American exploitation. He demonstrates the power of the GAD myth in scrubbing aboriginal and Hispanic peoples and culture from the story of the Great Plains.

Throughout this work, Hollon stresses the changeability of climate over time, one of this book’s strengths. The environment emerges as a major player. However, the premise of Hollon’s book, seeking a desert of his own defining, combined with the lack of any citations, leads to some very misleading pronouncements. In regards to the Gallegos Relación, Hollon wrote that,

[a]ccording to meager details furnished by a member of the [Chamuscado-Rodríguez] expedition, the last nineteen days of the journey was “through a desert, uninhabited country.”²⁸

As examined herein Gallegos reported no such thing. The closest that text comes to such a statement is in 1581 after leaving the “valley of swamps” at *El Paso*, “[w]e had traveled over seventy leagues through uninhabited country” [*despoblado*].²⁹ In fact it was at this point that Gallegos reported being discomfited by a downpour. This usage, in conjunction with limited “Bibliographical Notes”, makes clear that Hollon worked from secondary sources. What follows these early chapters closely parallel’s Webb’s *The Great Plains*, updated to the 1960s. His chapters present the ‘white man’s’³⁰ struggle to wrest a living from the intermountain desert plains and mountains of the GAD.

²⁷ Hollon (1966): 72. Note the expression, “followed in the wake of Lewis and Clark [.]” This is a nice reflection of the water-borne nature of that expedition. However, this also inadvertently stresses the structural persistence of both the desert and the ‘sea of grass’ mythologies in Western history writing.

²⁸ Hollon (1966): 41.

²⁹ Hammond, George P., and Agapito Rey, “The Rodriguez Expedition to New Mexico, 1581-1582,” *New Mexico Historical Review*, 239-68; 334-62, (2: 3&4, 1927): 261.

³⁰ Sacajawea and the “sad-faced” evangelist Mary Lease may be the only females mentioned by name in this book.

In closing this discussion of the GAD literature, I briefly return to Donald Worster's *Dust Bowl* which opens with the line "The Southern Plains are a vast austerity."³¹ Worster concluded that the mining of agricultural resources was driving us to "Dust Bowl IV," and that "the Great Plains cannot be pushed and pushed to feed [the] world's growing appetite for wheat without collapsing at last into a sterile desert."³² I do not argue with these sentiments, but rather with the declensionist point of view that projects today's realities onto the past. In making his case for future actions, Worster buries any possibility of finding a nuanced aboriginal history of the Great Plains under his man-made sand dunes:

For all their creative, exuberant force [Plains] Indians did not drastically alter the ecological order. Wild claims have been made about their burning the entire Great Plains vegetative cover to provide better forage for game...or about their depleting the bison, or about their overbreeding to the point of Malthusian disaster. The truth, however, is that the Plains Indians largely merged into the natural economy; they simply became another predator—successful, highly intelligent, *making themselves felt as other creatures* did, but accepting in every way the primacy of grass³³ (*Italics, mine*).

That is what the Great American Desert does to one's thinking. It turns the Great Plains into a great desert where only wild animals and predators roam.

This HGIS investigation has led to a new vision of a pre and early historical Great Plains where agricultural and trading settlements, or agriscardos, dotted a landscape previously presented as nothing but a productive bison range. As I did not believe the place was a great desert, neither did I know that permanent organized agricultural settlements were a common feature of the riparian valleys of the Southern Plains, or Study Area. Considering myself to be widely read on the subject of the Great Plains, my ignorance of these facts was perplexing. I now chalk that ignorance up in large part to my having been raised with the Great American Desert as an unexamined component of my perception of the place. Growing up in an extended family of Great Depression survivors, I heard much about what exceptional people we were to get through that dustbowl. We cast a different brand of exceptionalism backwards in time to those who preceded 'us' on the Plains. Those Indians must have been some tough customers to

³¹ Donald Worster, *Dust Bowl: The Southern Plains in the 1930s*, 2nd ed., (New York: Oxford University Press, 2004 [1979]): 3

³² Worster (2004 [1979]): 239.

³³ Worster (2004 [1979]): 77.

survive wandering about the Plains with nothing but bows and arrows! This study suggests that some Study Area aboriginal groups had much more in common with euramerican agricultural settlers than location. Agricardo groups such as the Jumano/Quivirans/Taovaya, Taino, Padouca, and Pawnee had permanent agriculturally supported towns and trading systems the structure of which was similar to the American agricultural frontier model.

All sources examined help make the case for a climate that was consistently cooler, generally wetter, and possibly stormier than 20th century climate. That glaciers covered the Rocky Mountains did not mitigate occasional periods of drought afflicting the intermountain and steppe regions. Perhaps the phrase “little Ice Age” has been repeated so often in the literature as to lose any impact it might have once had in convincing historians and other writers that we cannot just presume that the Great Plains, was the roughly same place it is today, and that therefore Plains Indians labored under the same set of environmental constraints and opportunities that we do today.³⁴ In the Study Area to 1820, this was far from the case. Not only is the past a foreign country, it has a foreign country’s climate. If we look to the Great Plains of the 16th, through early 19th centuries expecting familiar climate, say Dust Bowls and advancing deserts for instance, we would be disappointed.

This concept has baffled some writers and been overlooked by others. Cleve Hallenbeck tried to replicate Cabeza de Vaca’s epic journey by sleeping naked on the ground, *three centuries* after the fact. Hallenbeck did not fight his way ashore on the South Texas Plains through Gulf snowstorms as did the Spaniard. Neither did he sleep through the seemingly interminable cold and wet as did de Vaca. All of the Spanish argonauts referred to frozen rivers and dire winter weather on the Pecos River and Rio Grande. Expeditions crossed those rivers on solid ice through the 1600s. The Pecos River had to be bridged to be crossed in spring and froze so heavily in January that trains of oxen-drawn wagons could cross it.³⁵ As late as 1675 lakes near

³⁴ Excepting of course the presence of dire infectious diseases. All writers examined, at least all writers since the inestimable Crosby, now consider disease as the major, sometimes the only, environmental factor in early historical aboriginal life. Pekka Hämäläinen has called this tendency “deterministic” and “flattening”, and I concur. “The Politics of Grass: European Expansion, Ecological Change, and Indigenous Power in the Southwest Borderlands,” 173-208, *The William and Mary Quarterly* (67: 2 2010): 174.

³⁵ Castaño de Sosa (1966[1590]): 279.

the Gulf coast froze over in winter, as La Salle discovered.³⁶ Pedro Vial and his companions battled high water at various times of the year all over *Texas* and *Oklahoma*. Vial weathered high water and seemingly interminable rain on the *Canadian* Plains in the spring of 1792 and the autumn of 1793, then found snow and a Comanche “dying from the cold” at Tucumcari November 8.³⁷ Jeffersonian era argonauts found weeks of snow and freezing weather along the Mississippi valley to *Little Rock, AR* in 1806-07. Zebulon Pike dealt with weeks of torrential spring rains on the Osage, an October blizzard on the Arkansas Great Bend, and heavy winter snows on the upper Arkansas in 1806-07. Wilkinson endured brutal winter weather in October at *Wichita KS*. The last argonaut surveyed, Stephen Long, reported all the Rocky Mountain peaks were snow-covered in July, and James’ ascent of Pikes Peak was accomplished on what sounds more like a glacier than through snow. These are not isolated observations but evidence of a climate regime wetter and colder than our own.

That the Little Ice Age provided more onerous trips for argonauts is the least of its effects. Written large, Great Plains climatic conditions “probably included increased summer precipitation, lower evaporation levels, cooler annual temperatures, increased summer storm and tornado activity, shortening of the growing season, more frequent frosts, lower snowlines, and more severe winters[.]”³⁸ Argonaut evidence allows us to remove “probably” from that statement, as those were precisely the climatic conditions they universally reported. The effects of that colder, wetter climate regime impacted almost everything we study about the early historical period on the Great Plains. Some of these effects are ‘obvious’, as in the impact on feral horse ranges, but others appear to be counterintuitive, particularly in regards to aboriginal agriculture which was much more common and extensive than previously portrayed in historical literature.

Cabeza de Vaca gave evidence of a serious drought afflicting the ‘People of the Cows’, or Jumanos, for several years in the 1530s. This drought kept them from planting corn and forced a greater dependence upon bison hunting. Drought and the devastating *cocoliztli* epidemic were linked with the Pueblo in the 1570s, and the disease many have spread in the

³⁶ Anderson (1999): 204.

³⁷ Vial, Loomis (1967): 404.

³⁸ Alan J. Osborn, “Ecological Aspects of Equestrian Adaptations in Aboriginal North America,” 563-591, *American Anthropologist* (85:3, 1985): 579

Pueblo because of drought there.³⁹ Espejo (1583) indicated drought upon the Canadian Plains, but not in the intermountain. This affected the Taino agricardo. Castaño de Sosa (1591) and other sources revealed a likely cataclysmic drought along the Pecos. Oñate reported a devastating drought in the intermountain in 1600 that likely drove the quest for Quivara. This is evidence not of periodic droughts, but rather, long-term drought or climate change. Spanish argonauts painted a picture of drought-driven agricultural collapse from La Junta northwards through the intermountain and out onto the steppes. Pedro Vial (1786) was the last argonaut surveyed who gave evidence of drought, and that was along the Pecos and on the Llano, as desperate Apaches hunted bison on the Comanchería after the animals had abandoned that highland.⁴⁰

Vial however, gives a picture of a region with a precipitation regime that Pike or Long would have recognized; it was by all accounts a wetter place. In 1787-88 it snowed on the Tejas Plains, all the rivers ran high. This weather continued through the 1790s as Mares encountered wet weather and Vial ‘floated’ to Natchitoches. Vial also evidences flooding rivers on the Canadian Plains in 1792. These conditions would carry through to 1820 as Pike, Wilkinson, James, and Bell all reported extreme wet weather across the Plains. Long, on the middle Canadian, was the only argonaut who did not report heavy storms and precipitation. These reports cover all seasons. As Merlin Lawson wrote, based on dendro-chonological evidence, “in the trans-Mississippi West there were no droughts serious enough to justify the characterization of the region as a desert by either Pike or Long.”⁴¹ Apparently, the Plains had their own climate, and it was a damper one than we would recognize as ‘normal’. Historical evidence suggests the wetter times may have peaked around 1850 on the Central Plains. While it is not possible to make a definitive model from these sparse reports, it is possible to make this reasonable conjectural one.

From Contact (de Vaca) through the 1700s the southern Rio Grande, Rio Grande valley, and Pecos steppe underwent an extended period of drought. This drought ‘caused’ a collapse of agricultural production and exacerbated depopulation in conjunction with Spanish depredations

³⁹ Acuna-Soto (2002): 260ff.

⁴⁰ Fernando de la Concha, “Letter,” Kavanagh (1999): 140. Increased hunting would have also been a factor in the bison’s disappearance from the Llano at this time. Besides the Apache from the west and Comanche from the east the new Comanchero trade was now well-established.

⁴¹ Merlin Paul Lawson, *The Climate of the Great American Desert*, (Lincoln: University of Nebraska Press, 1974): 95.

and epidemic disease both imported and indigenous. Contrarily the Great Plains east of the steppe ‘enjoyed’ a precipitation regime that was cooler and much wetter than what we think of as ‘normal’. These conditions appear to have been conducive to Plains Indian agriculture. All argonauts were drawn to Plains agriculturists because of their long term stability and ability to produce food. Those agriculturist groups had themselves been drawn to the Plains from the drought stricken intermountain and lower Rio Grande over the preceding few centuries.⁴² Drought followed them onto the Plains, commencing from the Gulf and working northwards over two centuries. By the 1710s, drought afflicted the lands that de Vaca had found to be cold and wet.⁴³

A 300-year review necessitates considering climate as a factor in history. Whereas most studies surveyed never consider climate as a factor in human affairs, climate emerges as a major player herein. Since the early 1500s, the Southern Great Plains climate has shifted from freezing cold winters and very wet conditions year round to a much warmer and drier baseline. This change must be considered in figuring aboriginal strategies and movements as well as bison and horse numbers. A warming trend was well underway when the Conquistadors began their epic destruction of the Pueblo.

I argue against the now accepted ecological model of tallgrass prairie, mixed-grass plains, and shortgrass steppe that rules the historical and environmental literatures. There is no evidence for a vast mixed-grass central plain in these sources. In the early historical period mixed-grasses colonized riparian valleys in conjunction with steadily decreasing riparian forests. While these riparian forests were extirpated by aboriginal horse grazing practice before 1820, it is entirely likely that mixed-grass regime increased as both aboriginal and bison populations declined through the 1800s and wetter climes persisted. As late as 1825 there was no mixed grass regime on the Central Plains, as Santa Fe Trail surveyor J. Brown reported than on “Cow Creek [east of the apex, Arkansas Great Bend] short grass commences and the short grass bounds the burning of the prairie.”⁴⁴ Brown travelled from Fort Osage to Santa Fe in that year. He observed and

⁴² Similarly, the Caddoan groups to the east were drawn to the Plains following the collapse of the Mississippian culture.

⁴³ See the excellent discussion of climate in Anderson, *The Indian Southwest* (1999): 60ff.

⁴⁴ Joseph H. Brown, “Field Notes of...United States Surveying Expedition, 1825-1827,” 107-131. Archer Butler Hurlbert, ed., *Southwest on the Turquoise Trail: The First Diaries on the Road to Santa Fe*, (Denver: Colorado College/Denver Public Library, 1933 [1827]): 121.

collected stories of aboriginal burning of the tallgrass prairie. Brown not only supports the grass regime conclusion, but makes an important contribution to the question of fire management. The best evidence for the short grass regime is the work of the Long Expedition artists who consistently showed themselves standing on the grass rather than in it.

Only once in these sources is aboriginal firing reported, and that was a defensive measure against the rapacious de Sosa entrada. There is no evidence I am aware of that supports aboriginal burning of the short grass plains prior to 1820. The testimonies of argonauts Vial, Pike, and Long suggest that Study Area grass fires, whether intentionally set or natural, may have been rare given the precipitation regimes those travelers endured. Natural burning combined with a still formidable bison presence obviated the need for burning the short grass to replenish grazing to 1820. In an era where precipitation far exceeded today's norms and growing seasons were longer and more productive, as evidenced by repeated mentions of multiple corn plantings, the shortgrass looked after itself.

Some writers maintain that bison populations were 'in bloom' at the moment of Contact, due to favorable environmental conditions caused by the Little Ice Age. Cooler weather and increased precipitation led to "unusually high bison population densities."⁴⁵ Despite the demonstrated prevalence of cooler, wetter climate during the Little Ice Age, the sources reveal that bison were in retreat from areas they had populated prior to Contact (Fig. 11.3). Cabeza de Vaca provides no evidence of bison herds on the Southern Texas plains or west of the Rio Grande in the 1530s. De Vaca, Gallegos, Espejo, and others indicate both drought and human depopulation on the lower Rio Grande to the 1590s in addition to an absence of bison in those climes. Climate change is also evidenced by collapsed population centers in the Rio Grande Valley above La Junta. The first Spaniards to reach Santa Fe reported bison sign within leagues of pueblo doorsteps at Santa Fe, yet no argonaut would report bison within fifty miles of Pecos.

Espejo (1583) reported both bison and bison cows along the upper Pecos River, naming that stream *The River of Cows*. This would be the last argonaut to report bison, much less cows, upon the upper Pecos. Castaño de Sosa (1590) found no bison along the Pecos River. His evidence suggests bison were withdrawing from the southwest steppes by that time. The absence of Jumano hunters indicates they were further out onto the plains. The years between 1583 and

⁴⁵ Osborn (1985): 584.

1590 marked the end of bison range that followed the Canadian/Pecos valley to the doorstep of the Pueblo. This was surely a major change in Pueblo and Jumano worlds and a factor in the coming downfall of Taino and Jumano agriculturists.

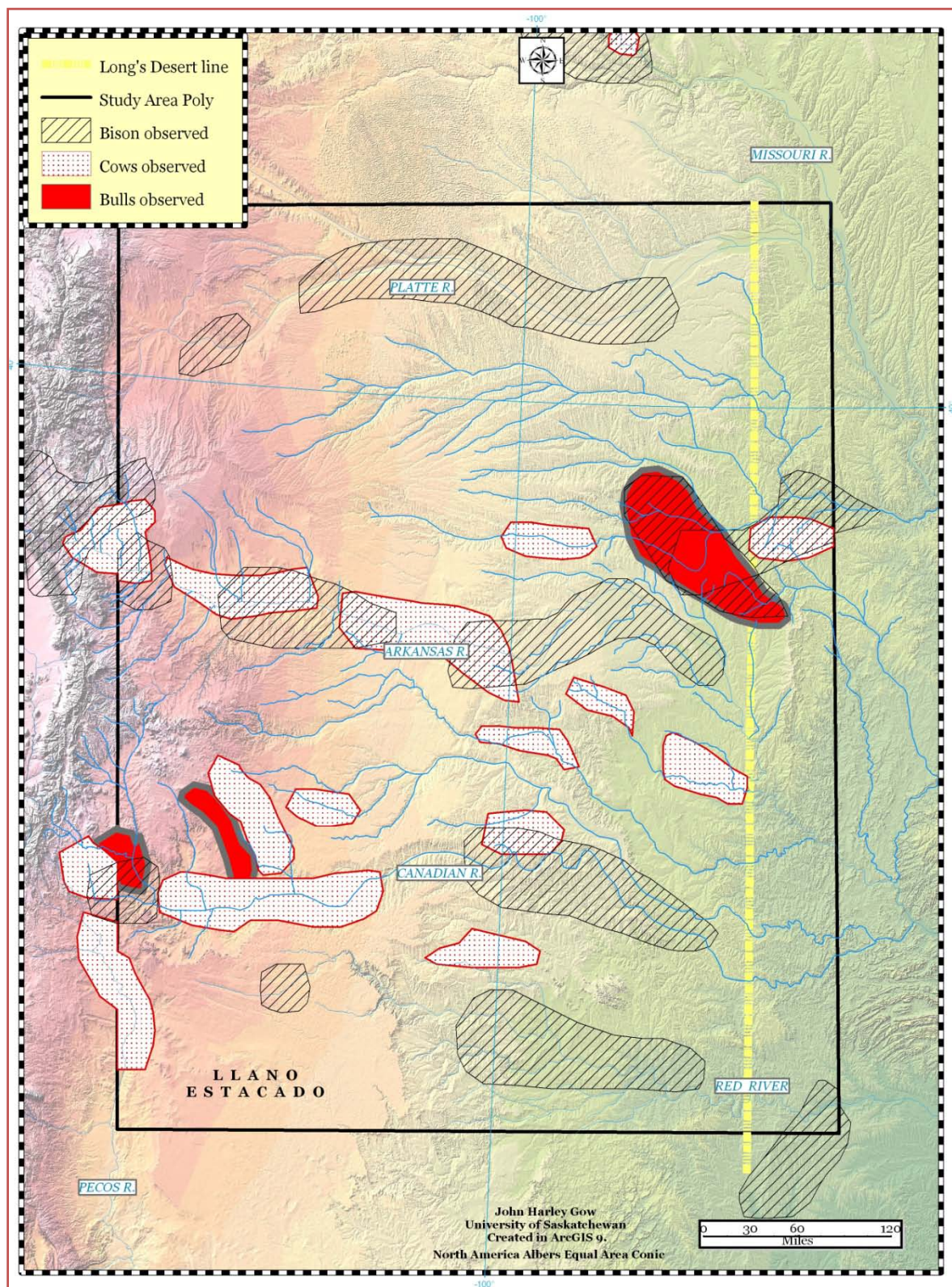


Figure 11.2. Observed Bison, 1534-1820.

Mendoca may have been the last argonaut to report bison between the Pecos and Canadian Rivers in 1599. The next year Onate found them eighty miles further east beyond the Canadian. This retraction from the Pecos valley was permanent. Further out on the Canadian plains they found great numbers of bison bulls, showing this gender separation was not limited to the Arkansas River. In close proximity to Plains Apache rancherías the Spaniards reported cow bison in great numbers, unmistakably on the buffalo grass steppe. Oñate would be the last argonaut to report cow bison this close to Santa Fe. While the Taino agricardo created a game sink around their towns, Mendoca and Onate showed something greater at work. The decades from first reportage to 1600 saw a marked retreat in bison range from the Pueblo eastwards. This withdrawal preceded by at least fifty years any possible connection to horse or sheep grazing practices, either aboriginal or euramerican. Also, since aboriginal population was already in marked decline and euramerican hunting not yet an issue, it is hard to lay this development at human feet. The drought mentioned by Espejo in 1582 and again by de Sosa in 1590 may have been an extensive, possibly lasting to 1600, and the Oñate entrada.

In 1706 Juchereau processed 13,000 bison hides at his tannery at the mouth of the Ohio River, and by then Indians below the Quapaw on the Arkansas were already blocked from the bison resource. By 1724 bison had retreated away from the Missouri River such that Bourgmont did not encounter one of the animals until 96° West longitude, the eastern bounds of the Study Area. American argonauts Dunbar, Freeman, et al, evidence that bison were no longer found on the Ouachita River or the lower Red. By 1806 the animals had been effectively extirpated from east of 96° West from the Missouri to the Red River. This is a rate of withdrawal many readers will find surprising, particularly when considered along with the reports of the Lewis and Clark and earlier Spanish argonauts. The argonaut record makes for a grim picture in which bison were retracting back onto the Great Plains from former ranges that may have extended into Mexico and east of the Mississippi prior to 1500. This phenomenon was not restricted to the Southeast, but appears to have been taking place all along the Mississippi, extending to the Mandan agricardo in 1806-07 on the Northern Plains, as evidenced by Bourgmont, Pike, and Lewis & Clark.

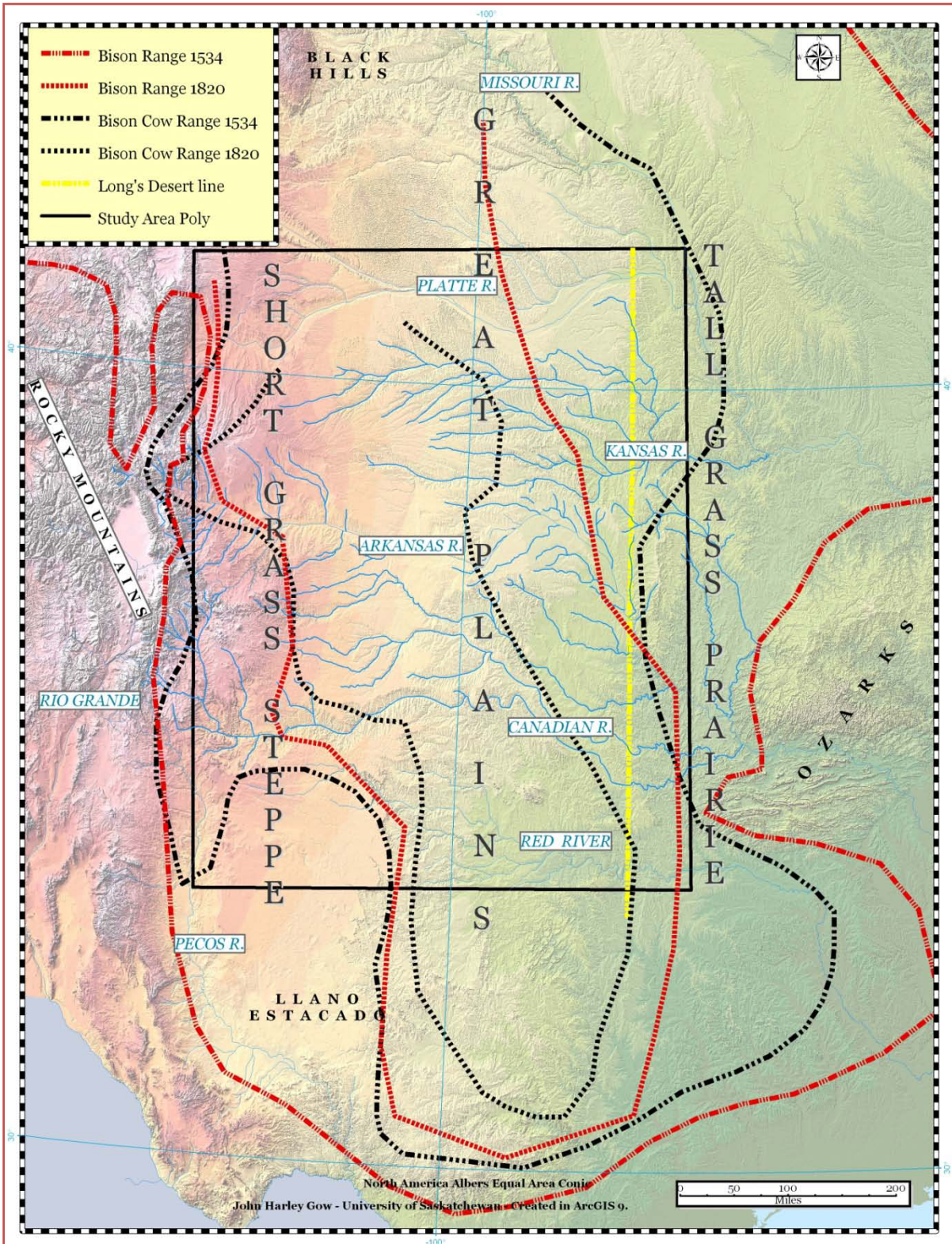


Figure 11.3. Bison Range, 1534-1820.

Pike and Long revealed that not only had the bison range retracted into the Study Area from the east and west,⁴⁶ but that within that region bison cows were found only in very specific ranges. Throughout the Study Period, cows were found exclusively on the short-grass plains and steppe, and riparian valleys on the plains and in the foothills. Bourgmont (1724) was the only argonaut who reported bison cows east of the Arkansas Great Bend. This was on the Kansa autumn hunt below the Kansas River on identifiable short grass ranges.⁴⁷ By 1800 bison cows had withdrawn 200 miles west to the Arkansas lower great bend. Pike would find bison cows at the bottom of the Great Bend and from there onto the short grass plains and steppe into the Rockies. Fig.11. 2 shows this relationship and Fig. 11.3 reveals the reduction of as much as 50% in cow bison range by 1820. Drought was endemic in the trans-Rio Grande southwest, and this range retraction was well under way by 1534. Since an aboriginal population collapse was underway at the same time the principal and perhaps only cause of this retraction was climate change.

From the southwest the Spanish argonauts revealed that bison cows were found upon the upper Pecos River until Gallegos in 1582. In 1600 Oñate shows the cows to have withdrawn nearly 100 miles eastward; no other argonauts would report cows west of the Canadian River and that close to the Pueblos. The cow bison hunt had been instrumental in maintaining the Taino pueblos and agricardo as well as the Querecho agricultural groups, and the retraction of cow bison away from Pecos was a factor in the Taino downfall. Later argonauts Pike and Long demonstrate that transhumanist practice by the Comanche had greatly contributed to the destruction of the upper Arkansas valley which was a prime grazing site and buffalo commons to the El Cuartelejo Apache and other groups. Human assisted horse grazing had denuded this place of trees and its garden-like setting by 1820. Beginning sometime after 1700, caught horses played a major role in the reduction of prime cow bison range.

Apart from Bourgmont, all other reports show bison bulls in small “gangs” on the mixed grass between the tall grass prairie and the Great Bend. Bourgmont’s journal revealed that then as now, uplands bore a short grass regime while riparian valleys supported mixed or even tall grasses. Pike’s report of seeing great herds of bulls from a prominence can be seen as further

⁴⁶ There were still bison south of the Study Area into 1810 as Glass and Pike evidence.

⁴⁷ Bourgmont Journal — October 11, 1724.

evidence that the bulls preferred short grass grazing.⁴⁸ No observer in these sources reported bison in modern tall grass prairie. Coronado's records from 1580 are the only accounts which placed herds of bulls between the mountains and the main herds of cow bison. This record was an anomaly for all other accounts can be interpreted to mean that cow bison and calves were found in the mountains valleys and on the short grass with bulls found in herds or gangs to the east of the cows. Coronado's record was made in early summer and likely caught the bison just before the annual rut. Coronado also showed that in deep summer bison on the Great Plains congregated along the Canadian riparian valleys; they were not scattered indiscriminately across the plains.

These observations reveal the importance to bison survival of the riparian valleys and also suggest lower bison numbers. Carrying capacity of the plains was more severely restricted by the presence of standing water than by grazing availability, as only Long reported areas of bison over-grazing. There is no 'scientific' way to determine bison numbers. Historical evidence suggests that the Southern Plains from the Platte River south to the Red may have been home to at most 3-4 million animals through the 1700s-1820. That is 150-200 of Lewis and Clark's observed "great herd"(s) of 20,000, the largest agglomeration of animals reported in the sources. Beneath the Red River a large herd persisted until the late 19th century 'white hunt'; these are the animals the Comanchero trade would largely subsist upon. While never present on the Llano in summer, bison may have grazed on that plain in some numbers in indeterminable cyclical fashion. Bison persisted around the Llano on the Edwards Plateau and the Texas Plains into the mid-1800s. Perhaps these animals numbered some 2-3 million animals circa 1800. Faced with range restrictions these two 'herds' probably coalesced into the Southern Herd after 1850, numbering perhaps 4-5 million animals. The argonaut records suggest there were a bison population of perhaps 6 million animals on the Southern Plains 1700-1820.

The arrival of the horse to New Mexico can be dated to a specific year. Juan de Oñate found no horses anywhere in the Pueblo upon his arrival there in 1600. The era of the horse began that year. Oñate also introduced sheep to the Pueblo, an animal that would proliferate but be completely invisible in future argonaut accounts. Earlier theories that the horse somehow

⁴⁸ Pike (1965 [1810]), v.2: 401. September 12, 1806.

escaped Spanish custody and established itself upon the Plains without human assistance are thoroughly disproven in the argonaut accounts, and this is reflected in the literature.⁴⁹ Perhaps the trade of horses, through exchange and raiding, began with the establishment of New Mexico by Onate in 1600. It seems unlikely that the Spanish would arm conquered peoples with horses, as they resolutely refused to do so with weapons. Although there is no evidence to prove it, it seems likely that Intermountain and Steppe groups such as the Ute had at least some horses by 1700. When Anza set out after Cuerno Verde in 1779 his Ute allies situated east of Taos possessed many horses.⁵⁰ There were effectively no horses on the Great Plains prior to the Pueblo Revolt of 1680.

Before discussing caught horses further, a brief recapitulation of feral horse evidence. A few lines of text covers this issue, for above the Arkansas River feral horses were either not reported or reported in numbers so few as to indicate there was essentially no wild horse population of consequence on the Central Plains before 1820. Zebulon Pike was the first to observe ‘mustangs’ on the Arkansas. His first observations were clearly escaped caught horses singly or gangs of several animals. Pike did observe one herd of wild horses on the Arkansas lower bend in conjunction with pronghorn and elk, and close to the first herds of bison cows.⁵¹ This was also the one spot that Long found a feral horse herd along the Platte and Arkansas. There were no feral horses on the lower Arkansas. Long did find in September 1820 feral horses in small ‘gangs’ along the central Canadian River, with larger herds around 98° west. These herds were found just west of the transition from short grass to wooded areas. On the rare occasions that feral horse herds were observed, it was in riparian valleys in conjunction with pronghorn and elk. I take this to mean horses preferred a mixed grass regime and flowing water. Since these were the same environs preferred by bison cows in high summer, horses would have increased grazing pressures on these rare resources.⁵²

⁴⁹ James C. Malin, *History and Ecology: Studies of the Grassland*, Ed. Robert P. Swierenga, (Lincoln: University of Nebraska Press, 1984): 20.

⁵⁰ Anza, in Kessler (2001): 21.

⁵¹ Pike (1965 [1810]), v.2: 437.

⁵² I estimate from Kuchler that under ideal climatic conditions, at most 10% of the land mass of the Study Area *potentially* supported mixed grass regimes such as bluestem-grama. Realistically, these areas comprised 3-5% of the geographic. A. W. Kuchler, “Potential Natural Vegetation of the Conterminous United States.” New York: American Geographical Society, 1964. And, *Manual to Accompany the Map*

South of the Red River it was a totally different situation. The Vial records hint at, and Glass proves that the Texas Plains were a paradise for feral horses. There the animals may have been nearly as numerous as bison by 1820. This same pattern holds for feral cattle which were never reported in the Study Area, but flourished south of it. South of the Red River feral horses and cattle provided bison with intense direct competition for grazing.

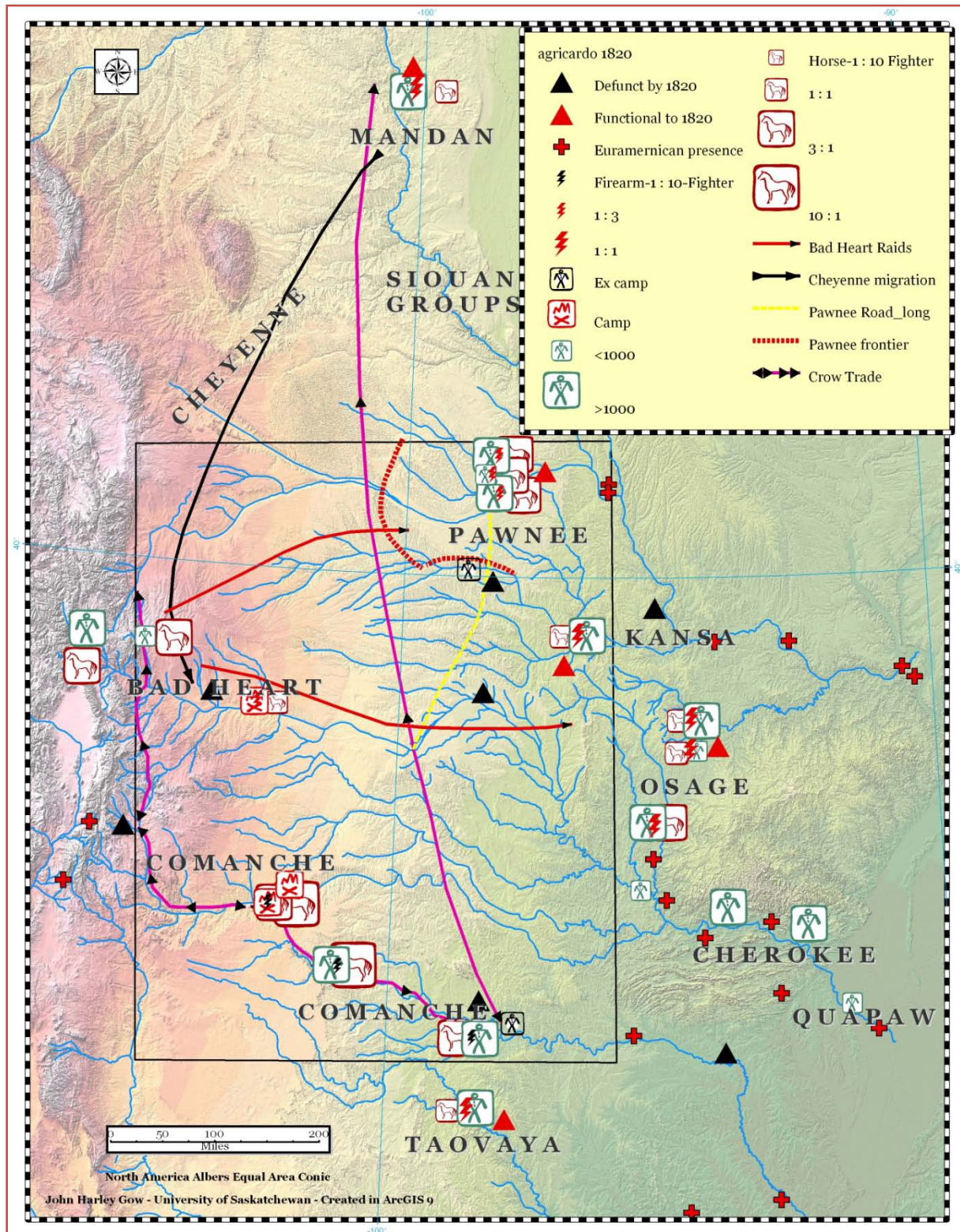


Figure 11.4. Horse/Firearm Nexus, 1820.

Regarding caught horses, it seems likely that the horse first ‘moved’ to the Plains through the intermountain and through human agency to El Cuartelejo circa 1680-1700. When Ulibarri visited the Apache there in 1706 they had horses; voluntary trade of horses likely existed between the New Mexicans and their then allies the Apache.⁵³ Since Ulibarri let horses loose to graze and be retrieved at some future date, he was not providing the Apache with something they did not already possess.⁵⁴ Since La Vérendrye reported horses at the Mandan *agricardo* but thirty years later (1738), this suggests the El Cuartelejo *agricardo* was an important element in that diffusion. This transit occurred at the exact moment the Comanche made their appearance on the Plains, and presumably the transfer of horses from New Mexico to the Plains milieu increased exponentially as the enemy Comanche replaced friendly Apache in close proximity to the horse resources. How many horses the ‘horse-mad’ Spanish possessed is unknown, but when Anza set out in 1779 he took at least 1200 horses. He encountered Cuerno Verde’s group with at least 3000 horses on Fountain Creek. All Comanche including women were then mounted; no other group had sufficient horses to provide mounts for women.

By 1820 the Comanche had 10 or even 20 horses and mules per fighter. No other group approached those figures. Comanche allies the agriculturalist Taovaya had many horses, perhaps 5 or more per fighter, enough to inspire near-constant raids by the Osage. The Comanche were in near continuous motion, a ‘strategy’ impelled by the need to graze their huge horse and mule herds. The Taovaya fenced their extensive fields to keep horses out and were ‘blessed’ with near perfect grazing lands. Given their centrality in Southern Plains trade networks it is certain the Taovaya limited their herds to maintain their agriculture. The Taovaya abandoned Quich to move further from Osage aggression. By design, the Osage also limited their horse numbers to perhaps 3 per fighter. Osage women did not ride, but the Osage were a settled group. Osage horse numbers reflect the primacy of settled agriculture to their culture. The Kansa followed the same model as their Siouan cousin, the Osage. The Pawnee were horse-rich and although they still practiced agriculture it was declining in importance due to their enthusiastic adoption of the horse.

Both the Osage and Kansa fought from horseback with firearms. This ‘stereotypical’ Plains Indian behavior was unique to these two Study Area groups, as the Pawnee fought on foot

⁵³ The New Mexicans had no trade goods but horses that they would trade to the agricultural Apache.

⁵⁴ Ulibarri, in Thomas (1935): 66.

with firearms and hunted with bows from horseback, and all other horse-rich groups both fought and hunted from horseback with bows and lances. None of the argonauts reported Indians using firearms for hunting. Given the great Comanche wealth in horses and their access to the firearms trade through Taovaya and Caddo groups, it seems likely the Comanche actively avoided dependence upon firearms through 1820. Since all groups, Indian and euramerican alike, feared the Comanche, the lack of firearms did not lessen their effectiveness. This may have been changing by 1806 as Wilkinson saw a Comanche war-party that had been shot to pieces by the Osage. All the raiding parties observed with the exception of the Pawnee (Pike, Long 1819) appear to have been 'poorly armed' in terms of firearms (Vial 1793, Pike, Long).

Fig. 11.4 shows a geographical distribution of firearms, with groups on the eastern limits of the Study Area possessing by a wide margin the preponderance of firearms. Closer inspection suggests a more complicated story. The Osage, Pawnee, and Taovaya had far more firearms than did the Bad Hearts, Comanche, et al. These were also the agricardo groups through which the firearms trade was in large part conducted. All groups with an agricultural culture and therefore static location were heavily armed with firearms. The Kansa/Osage had a firearms ratio of perhaps 10:1. Since these groups were the least dependent upon hunting, they acquired firearms as a defensive weapon to defend against continuous raiding by mobile groups. The sources also document Pawnee attacks on the Kansa (and Osage raids against the Taovaya. It is revealing that these documented raids were undertaken by ex-agricardo groups as opposed to settled ones. It was the Arkansas Osage who conducted relentless raids on the Taovaya, and Bell noted that the Pawnee raiders were the recently displaced Republicans.⁵⁵ Perhaps these two groups had originally hived off the agricardos to take advantage of horse-raiding opportunities on the Southern Plains. They also served as buffers between their parent agricardos and the mobile groups. This recalls the social structure of the La Junta Jumanos who lived in highly organized agricultural towns but also embodied mobile hunting groups. With the exception of the Osage, throughout the sources the preponderance of raiding and warfare was directed towards, rather than emanated from, settled agricardo groups.

⁵⁵ James, Edwin, *Account of an Expedition from Pittsburgh to the Rocky Mountains, Performed in the years 1819 and '20*, 2 volumes ([Philadelphia: Carey & Lea, 1823]. Readex Microprint, 1966): 135.

Horses rather than firearms caused an escalation in inter-group violence. Firearms were a defensive weapon for settled groups, and of secondary importance as an offensive weapon for mobile raiding groups. Since the raiding groups had many times the horses than the settled groups, horses simply were not the primary purpose behind the escalation of mobile group raiding. Regardless of the purpose behind raiding, horses increased the incidence of raiding and the reach of the raiders. Horse-borne Comanche raided 1000 miles into Mexico and brought back parrot feathers along with their booty of horses, mules, and Mexican/Indian captives. Long noted a one-way thousand-mile Bad Heart horse-trading route from Quich to Mandan agricardo. From their site near El Cuartelejo, Bad Hearts could strike the Pawnee, Kansa, and Osage agricardos and return in 800 miles or less. We know that they did so, but if horses were not the economic purpose behind the raids, what was? The Bad Heart site upon an ex-agricardo is a clue.

The agricardo complex was a significant feature of Plains aboriginal culture at Contact and through to Long's transit of the Study Area by which time it was in a state of retreat and collapse. Geographically distinct from the pueblo system, although similar in some attributes, some agricardos such as the Pawnee towns were outliers, or survivors of the recently collapsed Mississippian culture. Others, such as the Taino agricardo at *Pecos*, were Puebloan groups who had moved onto the steppes to pursue opportunities in agriculture, hunting, and trade. The Jumano/Quivara/Taovaya/Wichita were descendants of Mexican emigrant groups, likely in some combination with Mississippian groups.⁵⁶ The Osage were a Siouan group that brought an agricultural economy with them from the Ohio River Valley. The organizational cultures and economies of these groups were similar, if their ethnicity was dissimilar. The agricardo functioned at the structural level in the Plains, and was culturally available to groups with organized agricultural traditions.⁵⁷ Agricardos provided the food security to allow larger populations that in turn provided the labor for producing goods and services, group security, and

⁵⁶ For a fascinating and believable account of this process of group ethnogenesis, particularly in relation to the Jumano, see Gary Clayton Anderson, *The Indian Southwest, 1580-1830: Ethnogenesis and Reinvention* (Norman: University of Oklahoma Press, 1999): 30-54.

⁵⁷ Nancy Parrot Hickerson. *The Jumanos: Hunters and Traders of the South Plains*. (Austin: University of Texas Press, 1994): 217. Hickerson found that the agriculture trade "was ancient" and predated intergroup trade "in other, more exotic goods."

trade goods which attracted other non-sedentary groups. This attraction manifested in many forms, ranging from bilateral trading to raiding and warfare. For, the great advantage of the agricardo, security in numbers, wealth, and permanency of situation was also precisely what attracted raiders. Everyone—friends and enemies included—knew where you were at all times.

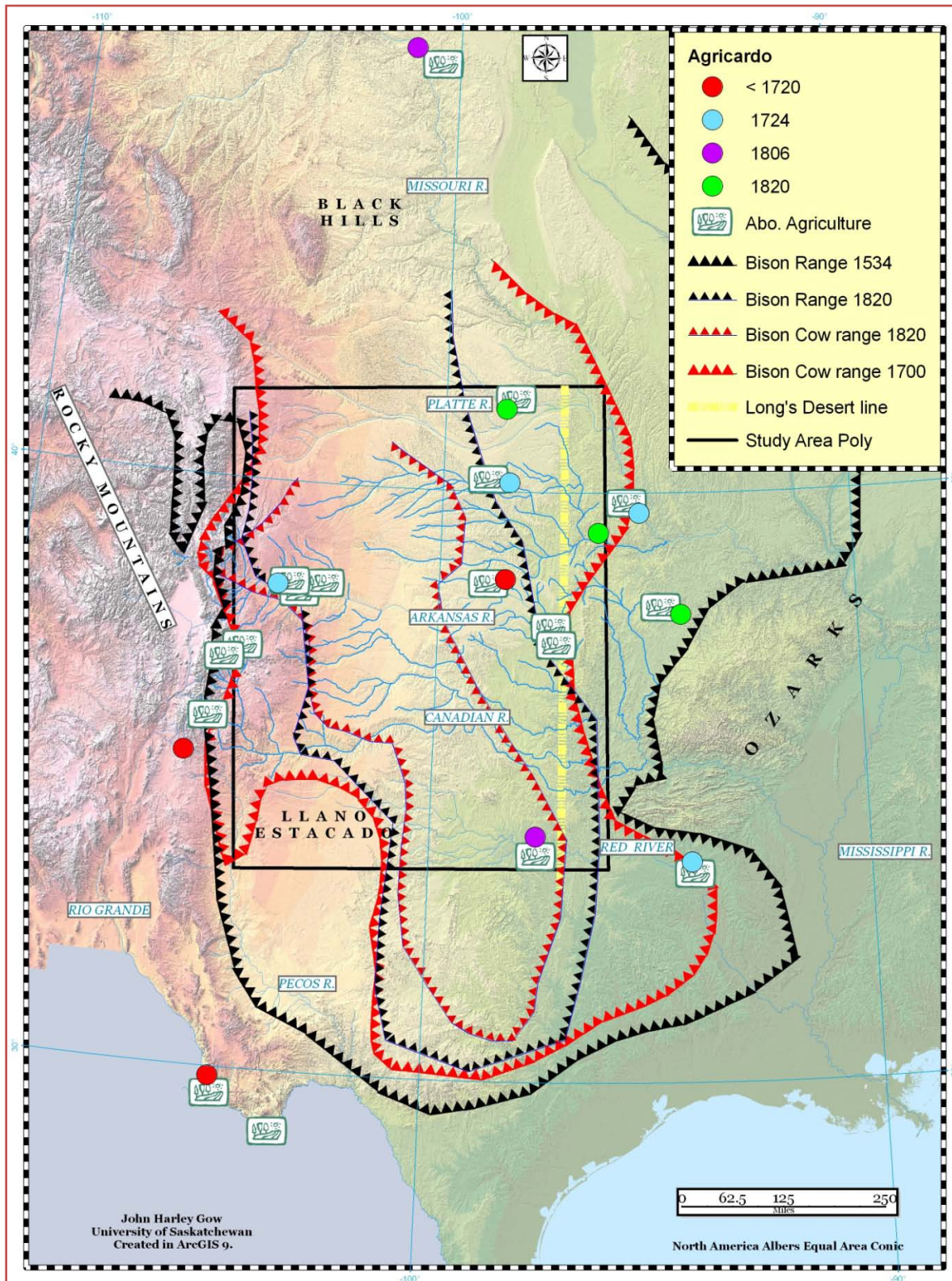


Figure 11.5. Agrigardos and Bison Range, 1534-1820. Agrigardo dates show last reported occupance.

It was, however, the agricardos that generated the various mythologies that drew argonauts onto the Great Plains in search of wealth. Cibola, Quivira, and likely Quich, attracted first conquistadors, and then traders, and finally colonialists. When the fantasies of golden plates and Northwest Passages were laid to rest, agricardos produced the food and trade goods that attracted euramerican traders. Agricardos also promised what colonialists desired: arable lands and the roads to them.

The environmental essence of the agricardo was that they supported large numbers of people directly on top of prime grazing ground for first bison, and then caught horses. This was, rather than Indian raiding for horses or agricultural products, the ultimate cause of the agricardos' demise. First, large agricardos increasingly hunted for the majority of their protein intake, and the preferred animal was always bison⁵⁸. Agricardos repelled bison both through hunting pressures and simply by occupying preferred sites. All argonaut accounts evidence game sinks around agricardos. Agricardos were initially sited where food could be both easily grown and hunted. This was the case with La Junta-Jumano, Pecos-Taino, Arkansas-Quivira, and El Cuartelejo. While the agricultural base was maintained through annual flooding of riparian valleys, the bison resource was another matter. As populations grew, easily accessed protein in the form of bison, elk, and pronghorn—in declining order of preference—moved further away. Agricardos were initially sited in the middle of premiere bison hunting grounds that became game sinks as population and agricultural lands increased. Drought induced bison range retraction also negatively impacted agricardo protein acquisition.

The Spanish argonauts show bison in retreat from the Pueblo and Taino and Jumano agricardos before Spanish settlement. In de Vaca's day, the Jumano had to go to the Plains to hunt, whereas the archaeological record shows bison east of the Rio Grande. Perhaps this withdrawal caused the Jumano to hive off hunting groups from their agricardos. Presumably this happened around all agricardos; as groups thrived and increased their numbers they also increase their impact on bison. Thus agricardos were in direct competition with mobile groups they had previously conducted trade with. Mobile groups could survive without agriculture; large

⁵⁸ Willard H. Rollings, *The Osage: An Ethnohistorical Study of Hegemony on the Prairie-Plains*, (Columbia: University of Missouri Press, 1995[1992]): 21. Rollings does not use the term but noted the tendency for the Osage to travel further west in search of game in the 19th century.

agricardo groups could not survive without hunted protein. Even before the advent of feral and caught horses these pressures impacted both bison and agricardo groups. Even population collapse caused by Spanish microbes and conquest did not counter the reduction of bison on the steppes and mountain valleys that supported agricardo groups. Hunting competition drove increased aboriginal violence against agricardo groups, as demonstrated in the Taino. The Taino agricardo resembled a medieval town with its storage facilities and defensive structures, all designed to fend off fearsome Plains groups, Querecho and Jumano alike. This violence was as much intended to destroy agricardo competition for protein resources as it was to obtain booty that Plains groups generally did not need. No Querecho 'required' Taino pottery, feather capes, or grown foods to the point of fighting for them, as demonstrated by the presence of un-fortified Apachean agricultural sites all along the steppe to the Arkansas. The Querecho did require year-round access to nearby bison. Of course disease and Spanish actions destroyed this agricardo as smallpox and Siouan imperialism destroyed the Mandan, but the same cannot be said of others to the same degree.

The Jumano agricardo at La Junta dissolved under the weight of disease and continuous contact with Spanish slavers and argonauts (Fig. 11.6). Already in de Vaca's day this agricardo imported bison products from the plains. It was also presumably the first agricardo to function as a disease funnel from Mexico to the Plains. Quivira's fate is unknown but that the site was never re-occupied suggests Osage actions were instrumental in reducing Quivara and keeping it open as a commons. El Cuartelejo's 1750s downfall came at the hands of the incoming Comanche and continuing Pawnee aggression. Both these agricardos were situated on top of vital bison ranges that became even more important in the face of range retractions. Although other factors were at work, both the Republican Pawnee relocation to the Platte, and Quich moving south to the Brazos, can be understood as attempts to remove agricardos from prime bison grounds. As Fig. 11.5 illustrates, by 1820 the only agricardo remaining within the Study Area bison range was that of the Pawnee. As horse Indian groups destroyed the horse-carrying capacity of rare riparian biomes, such as the Comanche on the upper Arkansas, the pressure mounted on occupied areas such as El Cuartelejo. Agricardos outside the all-important cow bison range, Kansa and Osage, managed to abide through the 1820s despite facing the same disease and raiding pressures as the other groups faced. The Pawnee abandoned their outlier

position on the Republican to coalesce into one powerful—and ultimately unsustainable—entity on the Platte.

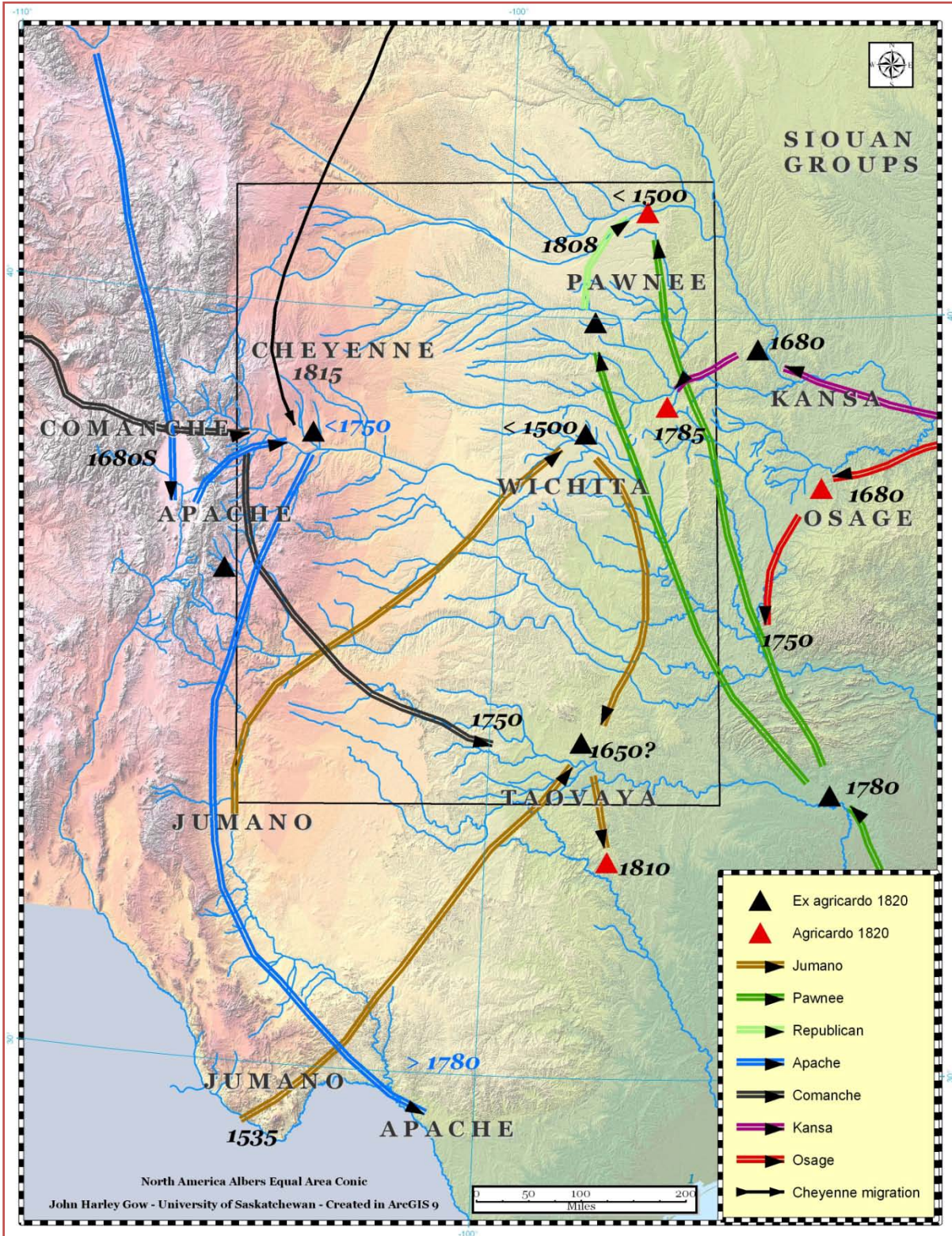


Figure 11.6. Agrícardo Sites and Group Movement to 1820.

Figure 11.6 shows some of the complexities of the agricardo system in terms of movement over time. While agricardos such as the Taino, Quivira, Osage, and Pawnee held static locations over hundreds of years, the image is still of movement over time in first long *durée* and then decadal cycles. It took the Apacheans hundreds of years to move down the Rockies to the Pueblo thence to El Cuartelejo, and but a few decades to be pushed from there to their 19th century lands around the lower Rio Grande.⁵⁹ Pawnee groups likely took hundreds of years to move physically and culturally from the lower Mississippi to the Platte. By the 1780s basically all the agricardo groups were in a state of flux, attributable to the factors listed above. But then, non-agricultural mobile groups with much lower populations were replacing agricardo groups within the Study Area, commencing with the Comanche displacement of El Cuartelejo circa 1750. All these groups in their tremendous range of cultural adaptations were the same Plains Indians Webb called an ‘infestation’, “*a human barrier of untamed savagery*,”⁶⁰ and of whom Donald Worster wrote; “Plains Indians largely merged into the natural economy; they simply became another predator—successful, highly intelligent, making themselves felt as other creatures did, but accepting in every way the primacy of grass.”

Perhaps the best service performed by this HGIS project is in re-imagining what is meant by the signifier *Plains Indian*. The argonauts surveyed herein provide sufficient data to suggest that the Great American Desert was a much different environmental place than it has been portrayed. Commensurate with that development is the necessity to retire the effigy that historians, anthropologists, and other writers created of Plains Indian groups based upon the unexamined belief that those groups lived upon a great environmental desert. While some groups such as the Comanche and Bad Hearts did indeed embrace transhumanist nomadism and trade routes that covered hundreds or even thousands of miles, other Plains Indian groups at the dawn of the historical period were settled in large communities supported by agricultural production and connected through highly developed trade networks.

As Cabeza de Vaca had been drawn to the Jumano by the promise of food and a copper bell, so were later argonauts such as La Vérendrye, who reported from the Mandan agricardo, in 1738/9 that:

⁵⁹ The Western Apache had a very different trajectory in the intermountain.

⁶⁰ Webb (1931): 141. Italics, mine.

savage tribes which use horses and carry on trade with [the Mandan]... they bring dressed skins trimmed and ornamented with plumage and porcupine quills, painted in various colors, also white buffalo skins, and that the Mandan give them in exchange grain and beans, of which they have in ample supply.⁶¹

The Mandan in turn also traded “grains and tobacco...colored buffalo robes, deerskins, and buckskins carefully dressed and ornamented with fur and feathers, worked garters, headbands, and girdles” to the Assiniboin in exchange for firearms, powder and shot, and metal edged tools. Frederick Hoxie reckoned that the horse trade was not then established at the Mandan town, which seems unlikely.⁶² As horses were present, they were items of voluntary or involuntary exchange. Plains groups were drawn to agricardos to exchange consumer goods they had either produced, and/or, exchanged elsewhere. It was, at least pre-horse, agricultural products that drew traders as this exchange thrived before the euramerican fur posts built upon pre-existing aboriginal trade networks. Plains groups both produced and purchased what can only be described as consumer goods well before the euramerican fur trade. This production and trade was not restricted to the Mandan agricardo but existed throughout the Southern Plains.

Writers on the Plains and Plains Indians have been overburdened with a GAD mythology that imbues even the most positive and well-meaning of anthropologists and historians of all stripes with a predilection for declensionist narratives. A unified HGIS omnibus history of the Great Plains would be a useful addition to the literature of the Great Plains, and this study is a first step in that direction. The Long Expedition which initiated the GAD mythos still seems the right place to end the present discussion. However, an expanded monograph would integrate knowledge and precise locations from later argonauts such as Josiah Gregg, John C. Fremont, and the bevy who opened and used the Santa Fe Trail. My own interests extend as far as bringing the HGIS history of the Southern Plains forward to 1850, the year I consider to be the end of the aboriginal era of that region. The most obvious second step is to then integrate the Northern Plains into the discussion; the 49th Parallel has been a great and unnatural barrier against writing Plains history. Perhaps Canadianists have likewise been kept from seeing an agricardo network in their own backyard due to similar distracting mirages, say Fur Trade and Canadian Exceptionalism narratives.

⁶¹ La Vérendrye (1927): 322 ff.

⁶² Frederick E. Hoxie, and Jay T. Nelson, eds., *Lewis & Clark and the Indian Country: The Native American Perspective*, (Urbana: University of Chicago Press, 2007): 33.

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Appendix A

Data: Espejo, 1583.

Point 0. 10 November, 1582. *Santa Barbara, Chihuahua*. [106°3' W x 28°43' N]. Text, Google Earth.

Point 1. 09 December, 1582. La Junta, from the text. Conchos and Rio Grande river junction. "Places." [104°26' W x 29°35' N].

Point 2 "San Bernardino", Jumano pueblo. Distance of travel, text. Type B agriculture. [104°26' W x 29°39' N].

Point 3. 10 December, 1582. Jumano pueblo, Q Bisise, 1000 souls. Type B agriculture. A likely site was at the mouth of Alamita Creek. Delorme, *Texas*: 74, A3. 'Rivers' layer. [104°15' W x 29°30' N].

Point 4. 08 January, 1583. "Place of lagoons"; wetlands below El Paso, identified by several argonauts. Past northern limits of de Vaca's trek. Net fishing, Type B agriculture. Also past Jumano frontier: Otomoacos group. 'Places', topography. [106°15' W x 31°36' N].

Point 5. 10 January, 1583. *El Paso*. [106°30' W x 31°45' N]. Encounter winter weather.

Point 6. 28 January, 1583. *Elephant Butte*. Google Earth. [107°12' W x 33°11' N].

Point 7. Hopi pueblo. Cotton Type C agriculture. *Orabi AZ*. From text and Hammond notes, Google Earth. [110°40' W x 35°50' N].

Point 8. 20-26 June, 1583. Sia, *Zia Pueblo*, of the Tigua. Text, DeLorme *New Mexico*: 23. ESRI Places, Google Earth. [110°40' W x 35°50' N].

Point 9. 27 June, 1583. Figured backwards from "Tamos"/*Taino* towns. Likely near *Santa Fe*. Forests, no rivers, mines, identified as Ubates by Espejo.

Point 10. 30 June, 1583. Santa Catalina; chaotic text, but clearly from both accounts, three Taino pueblos running north to south with southernmost being Cicuye (established in several other sources. Then, from topology, maps [105°52' W x 35°49' N].

Point 11. 02 July, 1583. Southernmost Taino pueblo, Ciquique. Espejo, 'Places', topography, distance travelled. [105°28' W x 35°18' N]. Type B agriculture, Taino *agrĩcardõ*.

Point 12. 05 July, 1583. South on Río de las Bacas six leagues. [105°28' W x 35°19' N].

Point 13. 06 July, 1583. Sixteen leagues from Pocos; strike the *Gallinas* River. Fifty miles measure tool. [105° W x 35°12' N].

Point 14. 12 July, 1583. Pastures and sign of bison hunt. Mileage, topography, points forward and back. [104°50' W x 35°4' N].

Point 15. 13 July, 1583. Stream from east. *Pintada Arroyo*. Topography, 'Streams', six leagues from 14. [104°50' W x 34°57' N].

Point 16. 14-16 July, 1583. El Rastro, 'The Track.' Four leagues across plain. Bison hunting, meat curing, salting. [104°43' W x 34°50' N].

Point 17. 17 July. El Mosquitero, back on *Pecos River*. Mileage fore and back, six leagues. [104°31' W x 34°39' N].

Point 18. 18 July. El Mesquital. Encounter mesquite, a food source. [104°31' W x 34°31' N].

Point 19. 19 July. El Carrizal, “The Reeds”. Then as now, wetlands around *Sumner Lake/Fort Sumner*. [104°17' W x 34°20' N].

Point 20. 20 July. La Rancheria, [104°23' W x 34°1' N].

Point 21. 23 July. El Salado, *Salt Creek Wilderness*. “Six leagues through marshy land.” Mileage, points back and forward, topography. DeLorme, *New Mexico*: 42. [104°29' W x 34°31' N].

Point 22. 24 July. Marshes, “bay near river,” 3 leagues. *Bottomless Lake, NM* [104°26' W x 33°22' N].

Point 23. 25 July. El Mosquitero. [104°22' W x 33°7' N].

Point 24. 26 July. El Mesquital; many small mesquites. Six leagues. [104°24' W x 32°50' N].

Point 25. 27 July. El Tunal. [104°18' W x 32°28' N].

Point 26. 28 July. Oasis, *Black River*, ‘Streams’, DeLorme *New Mexico*. Sierra extends onto plain. [104°5' W x 32°15' N].

Point 27. 30 July. “Large stream...walnut trees.” *Delaware River NM*. Six plus two leagues, *Black River*, ‘Streams’, DeLorme *New Mexico*: 56, F2. 26

Point 28. 27 July. El Tunal. [104°18' W x 32°28' N].

Point 29. 5 August. Great bend on river. Horses exhausted. [103°44' W x 31°45' N].

Point 30. 6 August. El Tunal. [103°32' W x 31°31' N].

Point 31. 7 August. *Toyah Creek TX*. Major Jumano ranchería. [103°25' W x 31°22' N].

Appendix B

Plotting the Republican Pawnee Town.

An exegesis of the GIS process in determining, **Pedro Vial, 1792-1793 [Point 19]**.

This is one of the GIS points that determine a route. Point 19, represents this author's determination of the geographic location of the Republican Pawnee Town site in 1793 from the journals of Pedro Vial. A GIS route, when determined from a source with as many unknowns as Vial's, can only proceed from 'known' locations, and the Republic Pawnee Town is one of these. Figuring this point allowed for plotting the route both backwards to the Little Nemaha and forwards to the Arkansas River. Having several of these determinable points in a route mark the difference between an HGIS plotted route and 'lines drawn on a page'.

- Plotting backwards: the Little Nemaha River rendezvous [Point 14]. Determined from the 'streams' layer sourced from the US National Atlas [<http://www.nationalatlas.gov/>]. This is the starting point for the cross country route.
- The route forward is roughly traceable from Vial's directions, "course to the southwest", as specific as he ever got. Clues such as "little stream that flows into the Kansas River," and "marched across plains" help rough out a route when considered with direction of travel and the usually very accurate distances recorded. The 'three mile league' is key to figuring distances.
- On 19 September they saw, but did not climb, "a hill of great height which the Indians call Blue Hill." They then camped on a small stream flowing to the Kansas. The next day they traveled 5 leagues to the Republic town. These are the elements which allow for plotting the point.
- Blue Hill: A Google Earth search reveals two Blue Hill's in the vicinity [*nb*, not Blue Hills], one in Nebraska, one in Kansas. The Kansas one is too far south to fit within marching distances and does not comply with the "small stream flowing to Kansas" clue. This is discarded although editor Nasatir chose this point, given the tools at his disposal.
- Google Earth shows "Blue Hill, NE" at (40°20'07" N – 98° 27' 06" W) Google Earth reveals that Blue Hill is indeed upon a height of land above the Republican River. Going to the ArcMap desktop, the "topography" layer (sourced at US National Atlas) reveals a distinct ridge in the right location.
- This location was then digitized as [Point 18].
- Additionally the "rivers" layer here reveals a stream running to the Republican; this is identified as West Fork Elm Creek when the database is queried.
- Additionally, the "measure" tool shows a distance of 15 miles from the rise of this creek to the river, and 18 miles from the other nearest creek to this point.

- GE also revealed, at an “eye altitude” of 10 kilometers, a location called Guide Rock some 7 miles southeast of the Blue Hill site. Guide Rock NE —*Pa-hur'*, or ‘hill that points the way’ in Pawnee—is named for a promontory on the opposite bank, and is the site of an historical marker and archaeological site of a Pawnee town.¹
- The town site was then digitized as [Point **19**]. This point was then used to help figure the routes backwards and forwards. Further, this point was used in figuring relationships such as Pawnee raiding, defense, and trade strategies.
- Note that there are other Pawnee town sites up and down the Republican River, but this particular site best qualifies as that visited by Vial in 1793.
- Distance-wise using this point closely matches Vial’s distances both back to the Little Nemaha and forwards to the Arkansas River.

¹ For an interesting view of a Pawnee dig ‘just across the river’, see; Archaeo-Physics: Shallow Subsurface Geophysical Survey. “Kansas Pawnee Site.” <http://www.archaeophysics.com/pawnee/>. Accessed 25 January, 2010.